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MEDICAL

Inquiries and Obſervations:

CONTAINING

AN ACCOUNT

OF THE

YELLOW FEVER,

AS IT APPEARED IN PHILADELPHIA IN 1797,

AND

OBSERVATIONS

UPON THE

NATURE AND CURE

OF THE

Gout, and Hydrophobia.

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VOLUME V.

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—1798.—

xx
Adams
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PREFACE.

AGREEABLY to my promiſe made in the year 1796, I herewith offer to the public a few obſervations upon the nature and cure of the gout. They are connected with a hiſtory of the yellow fever as it appeared in Philadelphia in 1797, and with ſome obſervations upon the nature and cure of the hydrophobia. I ſtill hold myſelf bound by my promiſe at the time above alluded to, to publiſh the reſult of my inquiries into the diſeaſes of the mind. The extent and difficulties of this intereſting branch of medicine, will neceſſarily delay this publication for ſome time to come. In the mean while (health and life permitting) I ſhall ſpare no labour to render it as uſeful as poſſible.

In

In my attempts to explain the nature of the hydrophobia, I have affixed certain ſpecific ideas to ſeveral medical terms which I had uſed in my former publications in the common and indefinite acceptation of authors. The reader will excuſe this liberty, when he reflects, how much new opinions in other ſciences, have been benefited by a new nomenclature. Medicine in its preſent improving ſtate, muſt follow thoſe ſciences in adopting a new language, for REASON however impotent it may be for ages, in producing juſt effects in morals and government, is ſeldom reſiſted longer than a ſingle generation, in the ſcience which relates to health and life. I am the more confident of its influence in producing a ſpeedy revolution in the uſe of medical terms, from having obſerved the principles which lead to it, adopted, not only by a number of reſpectable phyſicians in this city and in the neighbouring ſtates, but by many ingenious gentlemen of other profeſſions. " 'Tis time to retire" ſaid a Britiſh general in the year 1777, upon meeting an army of militia-men upon

upon the heights of Saratoga. "The owners of the ſoil have come forth." In like manner, 'tis time for the impoſing forms of ignorance and error in medicine to hide their heads. Unprejudiced men have come forth in defence of their own lives. Their efforts cannot fail of being ſucceſsful, for they are actuated not only by the powerful motive of ſelf-preſervation, but they move by the light of reaſon, the advantages of which in medicine, compared with ſolitary and mechanical experience, are like the extenſive benefits the ſcience of navigation has derived from the loadſtone, compared with the feeble aids it formerly derived from the ſight of land, or the tranſient light of the ſtars.

BENJAMIN RUSH.

PHILADELPHIA,
4th July, 1798.

CONTENTS.

Page.

OF the weather, and diſeaſes which preceded the yellow fever of the year 1797 in the years 1795 and 1796, - - - 3

Of the firſt appearance of the fever in 1797, 11

Of the ſtate of the weather as illuſtrated by meteorological obſervations made in the months of Auguſt, September, and October, - - 13

Of the prevalence of the fever in other places, 21

Of the diſeaſes which followed it, - - ibid.

Of its prediſpoſing cauſes, - - 22

Of its premonitory ſymptoms - - 23

Of its ſymptoms as they appeared

I. In the blood-veſſels, - - - 23

II. ——— in the excretions, - - 24

III. ——— in the nervous ſyſtem, - 26

IV. ——— in the ſenſes, - - - 27

V. ——— in the lymphatic ſyſtem, - 28

VI. ——— in the ſkin, - - - ibid.

VII. ——— in the blood, - - ibid.

Of the different forms of the diſeaſe, - - 31

Of the unity of the yellow and bilious fever, 35

Inſtances of perſons who were twice and three times affected by the fever, - - - 36

Account

Account of the effects of the contagion upon the author, and upon Dr. Dobell, - - 38
Means of preventing an attack of the fever, - 39
Number of deaths, - - - - 41
Account of the death of Dr. Way.
Letter from Governor Mifflin to the author respecting the origin of the disease, - - - - 44
Answer to the said letter, - - - 45
Memorial of the College of Physicians to the Legislature of Pennsylvania. Narrative of facts relative to the origin of the fever by the College, &c. Reply to the said memorial, and narrative of facts by the Academy of Medicine of Philadelphia, in a letter to Governor Mifflin, - - - 68
Appendix, containing documents and proofs of the domestic origin of the yellow fever, by the Academy of Medicine, - - - 81
An account of those vegetable and animal matters which produce bilious, remitting, and malignant fevers, - - - - - 100
Method of cure, - - - - 106
Of bleeding, - - - - - ibid.
Of purging, - - - - - 110
Of a salivation, - - - - 111
Of the various ways in which mercury affected the mouth and throat, - . - 113
Of the manner in which mercury is supposed to act in the cure of malignant fevers, - - 115
Of vomits, - - - - 117
Of diet and drinks, - - - 118
Of tonic remedies, - - - 121
Of the use of sweet oil and of issues as preventives of the yellow fever, - - - 123, 124

Of

Of the comparative ſucceſs of depleting remedies in the fever, - - - - - 127
Of the ſigns of moderate danger, and a favourable iſſue of the fever, - - 129
Of the ſigns of its great danger, and of an unfavourable iſſue. - -

Observations upon the Nature and Cure of the Gout, - - - - 139
Perſons moſt ſubject to it, - - - - 140
Of its remote cauſes, - - - 142
Of its exciting cauſes, - - 143
Of its proximate cauſe, - - - 144
Of its ſymptoms as they appear in the ligaments, 146
——— in the blood-veſſels, - 147
——— in the viſcera, - - 149
——— in the arterial and nervous ſyſtems, - 151
——— in the muſcles, - - 152
——— in the alimentary canal, 153
——— in the glands and lymphatics, 155
——— on the ſkin, - - 158
——— in the bones, - - 159
Uſual and various effects of the gout in different parts of the body, - - - 160
Of the method of cure, - - 162
I. Of obviating a fit of the gout in its forming ſtate, 164
II. Of the remedies that are proper in caſes of great morbid action in the blood-veſſels and viſcera, 165
Of blood-letting, - - - - 166
Of purging, - - - - - 171

Of

Of vomits, - - - - 171
Of nitre, - - - - - 173
Of cool or cold air, - - ibid.
Of diluting liquors, - - - ibid.
Of abſtinence, - - - - 174
Of bliſters, - - - - ibid.
Of fear and terror, - - - 175
Of ſweating, - - - - ibid.
Of opium, - - - - 176
Of topical applications, - - - ibid.
Of the early uſe of the limbs after a fit of the gout, - - - - - - 178
III. Of the remedies which are proper in that ſtate of the gout in which a *feeble* morbid action takes place in the blood-veſſels and viſcera, - 179
Of opium, wine, and porter, - - 180
Of ardent ſpirits, - - - - - 181
Of æther, volatile alkali, oil of amber, and bark, 182
Of the warm bath and a ſalivation, - - 183
Of frictions to the ſtomach and bowels, and of ſtimulating applications to the limbs, - 184
IV. Of the remedies for local ſymptoms of the gout without fever, - - - - 185
Of the head-ach and ophthalmia, - - 186
Of pains in the limbs and diarrhœa, - 187
Of angina pectoris, ſpaſms in the ſtomach and bowels, and pains in the rectum, - - 188
Of itching in the anus and vagina, cutaneous eruptions, and arthritic gonorrhœa, - 189
Inſtances of the radical cure of the gout, 191
V. Of the means of preventing the return of the gout, and firſt of its *violent* degrees by temperance, 195
Of moderate labour and gentle exerciſe, - 196

Of

Of avoiding cold, - - - 197
Of regulating the exerciſes of the underſtanding and paſſions, - - - - 199
Of avoiding exceſs in the gratification of the venereal appetite, - - - ibid.
Of avoiding coſtiveneſs, - - - ibid.
Of occaſional bleeding to prevent a fit of the gout, 200
Of Iſſues and bitters, - - - 202
II. Of the means of preventing a return of that ſtate of gout which is attended with *feeble* morbid action. - - - - - ibid.
Of a gently ſtimulating diet and the uſe of chalybeate medicines, - - - 203
Of the uſe of the vol. tincture of gum guaiacum, and of garlic, ginger, and ſaſſafras, - 204
Of warmth, of the warm and cold bath, and of regulating the ſtate of the bowels and the exerciſes of the underſtanding and paſſions, - 205
Of a change of climate, - - - 206

Observations on the Nature and Cure of the Hydrophobia, - - - 211
Of the remote cauſes of the diſeaſe, - 212
Of the proximate cauſe of ditto, as evidenced by its cauſes, ſymptoms, &c. in dogs, - 215
Alſo by its cauſes, ſymptoms, &c. in the human ſpecies, - - - - - 217
Of the remedies for hydrophobia.
I. Of ſuch as are proper to *prevent* the diſeaſe after the infection of the rabid animal is received into the body, - - - - 225

II.

II. Of the remedies which are proper to cure it, 227
Of blood-letting, - - - ibid.
Of purges and glyſters, - - - 231
Of ſweating and a ſalivation, - - 232
Of tonic remedies, - - - - ibid.
Of bliſters and the cold bath, - - 233
Of the cure of the hydrophobia which occurs from fear. - - - - - - 236

AN

ACCOUNT

OF THE

BILIOUS, REMITTING, AND INTERMITTING

YELLOW FEVER,

AS IT APPEARED IN

PHILADELPHIA,

IN 1797.

AN

ACCOUNT, &c.

IN my account of the yellow fever, as it appeared in Philadelphia in the year 1794, I took notice of ſeveral caſes of it which occurred in the ſpring of the year 1795. Before I proceed to deliver the hiſtory of this diſeaſe as it appeared in 1797, I ſhall mention the diſeaſes and ſtate of the weather which occurred during the remaining part of the year 1795, and the whole of the year 1796. This detail of facts, apparently unintereſting to the reader in the preſent ſtate of our knowledge of epidemics, may poſſibly lead to principles at a future day.

The month of April 1795 was wet, and cold. All the diſeaſes of this month partook of the inflammatory character of the preceding winter and

autumn, except the meaſles which were unuſually mild.

The weather in May was alternately wet, cool, and warm. A few caſes of malignant fever occurred this month, but with moderate ſymptoms. In June the weather was cool and pleaſant. The meaſles put on more inflammatory ſymptoms than in the preceding months. I had two caſes of mania under my care this month, and one of rheumatiſm, which were attended with intermiſſions and exacerbations every other day.

The weather on the 19th, 20th, 21ſt, and 22d days of July was very warm, the mercury being at 90° in Farenheit's thermometer. The fevers of this month were all accompanied with black diſcharges from the bowels. Mr. Kittera one of the repreſentatives of Pennſylvania in the Congreſs of the United States, in conſequence of great fatigue on a warm day, was affected with the uſual ſymptoms of the yellow fever. During his illneſs he conſtantly complained of more pain in the left, than in the right ſide of his head. His pulſe was more tenſe in his left, than in his right arm. During his convaleſcence, it was more quick in the left arm, than it was in the right. He was cured by a ſalivation and the loſs of above 100 ounces of blood. His head-

ach

ach was relieved by the application of a bladder half filled with ice to his forehead.

Moſt of the caſes of bilious fever which came under my notice, were attended with quotidian, tertian or quartan intermiſſions. In a few of my patients there was an univerſal raſh.

Dr. Woodhouſe informed me, that he had ſeen ſeveral inſtances in which the yellow fever had been taken from ſome ſoldiers who had laboured under the dyſentery. Theſe facts ſhew the unity of fever, and the impracticability of a noſological arrangement of diſeaſes.

The cholera infantum was ſevere and fatal in many inſtances during this month. It yielded to bloodletting in a child of Mr. Conyngham which was but four months old. In a child of ſeven weeks old which came under my care, I obſerved the coldneſs, chills, hot fits, and remiſſions of the bilious fever to be as diſtinctly marked as ever I had ſeen them in adult patients. In a child of Mr. Darrach aged 5 months, the diſcharges from the bowels were of a black colour. I mention theſe facts in ſupport of an opinion I formerly publiſhed, that the cholera infantum is a bilious fever, and

that

that it riſes and falls in its violence with the bilious fever of grown perſons.

About the latter end of this month and the beginning of Auguſt, there were heavy ſhowers of rain which carried away fences, bridges, barns, mills and dwelling houſes in many places. Several caſes of bilious yellow fever occurred in the month of Auguſt. In one of them it was accompanied with that morbid affection in the wind-pipe which has been called cynanche trachealis. It was remarkable that ſweating became a more frequent ſymptom of the fevers of this month than it had been in July. Hippocrates aſcribes this change in the character of bilious fevers to rainy weather. Perhaps it was induced by the rain which fell in the beginning of the month, in the fevers which have been named.

On the 30th and 31ſt of Auguſt there was a fall of rain which ſuddenly checked the fever of the ſeaſon, inſomuch that the ſucceeding autumnal months were uncommonly healthy. Several ſhowers of rain had nearly the ſame effect in New-York where this fever carried off in a few weeks above 700 perſons. It prevailed at the ſame time, and with great mortality, in the city of Norfolk in Virginia.

In

In both thoſe cities as well as in Philadelphia the diſeaſe was evidently derived from putrid exhalation.

In the ſame month, the dyſentery prevailed in Newhaven in Connecticut, and in the ſame part of the town in which the yellow fever had prevailed the year before. The latter diſeaſe was ſaid to have been imported, but the prevalence of the dyſentery under the above circumſtances, rendered it probable that both diſeaſes were of domeſtic origin.

The fever as it appeared in Philadelphia yielded in moſt caſes to depleting remedies. After purging and bloodletting, I gave bark where the fever intermitted, with advantage. It was effectual, only when given in large doſes. In one inſtance it induced a ſpitting of blood which obliged me to lay it aſide.

The winter of 1796 was uncommonly moderate. There fell a good deal of rain, but little ſnow. The navigation of the Delaware was ſtopped but two or three days during the whole ſeaſon. Catarrhs were frequent, but very few violent or acute diſeaſes occurred in my practice. The month of March and the firſt week in April were uncommonly dry. Several caſes of malignant bilious fever came under my care during theſe months. In two families

families it appeared to be contagious.—A little girl of five years old whom I loſt in this fever, became yellow in two hours after her death.

The meaſles prevailed in April and were of a moſt inflammatory nature. The weather in May and June was uncommonly wet. The fruit was much injured, and a great deal of hay deſtroyed by it. On the 14th of June General Stewart died with all the uſual ſymptoms of a fatal yellow fever. Several other caſes of yellow fever in this, and in the ſucceeding month, proved mortal, but they excited no alarm in the city, as the phyſicians who attended them, called them by other names.

The rain which fell about the middle of July checked this fever. Auguſt, September and October, were unuſually healthy. A few caſes of malignant ſore-throat appeared in November. They were in all the patients that came under my notice, attended with bilious diſcharges from the ſtomach, and bowels. So little rain fell during the autumnal months that the wheat periſhed in many places. The weather in December was extremely cold. The lamps of the city were in ſeveral inſtances extinguiſhed by it on the night of the 23d of the month at which time the mercury ſtood at 2° below o in the thermometer.

The

The yellow fever prevailed this year in Charleſton in South Carolina, where it was produced by putrid exhalations from the cellars of houſes which had been lately burnt. It was ſaid by the phyſicians of that place not to be contagious. The ſame fever prevailed at the ſame time at Wilmington in North Carolina, and at Newburyport in the ſtate of Maſſachuſetts. In the latter place it was produced by the exhalation of putrid fiſh which had been careleſsly thrown upon a wharf. Mr. Webſter has diſcovered that great and extenſive peſtilential diſeaſes, and earthquakes or eruptions of volcanos, comets and meteors, generally appear about at the ſame time. Men of genius and obſervation may perhaps diſcover hereafter a connection between certain phenomena in the heavens of another kind, and a morbid conſtitution of the atmoſphere.—The following narrative taken from Mr. Brown's paper may ſerve as a ray of light upon this ſubject.

For the PHILADELPHIA GAZETTE.

Mr. BROWN,

I have juſt taken up my pen to throw together a few haſty remarks on a very beautiful CORONA or HALO which appeared this morning. I firſt obſerved it about half after nine, though, I preſume, it made its appearance much earlier: It then conſiſted of a bright

bright circle, of which the ſun was the centre, formed, as nearly as I could diſcern, as is uſual with large CORONAS, of the ſeven primary colours, the inner circumference being *red*, and the outer *violet*. This appearance is not uncommon, though they ſeldom appear as luminous as this: But *this* was accompanied by a phenomenon, which I cannot diſcover to have been mentioned by any writer on this ſubject, which was a large white circle, which paſſed through the body of the ſun.

About 11 o'clock I obſerved them with Hadley's quadrant, and found the diameter of the halo to be about 44°; that of the white circle about 60°; and the altitude of the Sun 66°. The nodes or points of interſection, continued horizontal during the whole time. The appearance of it changed ſeveral times during the morning; ſometimes both circles would grow faint, and then again would become vivid; at one time they both diſappeared, but again appeared in a few minutes more bright than ever; until finally about one quarter after eleven, the white circle vaniſhed, and in 15 minutes more the halo diſappeared. All the morning, ſmall, light clouds, from the S. E.

July 25, 1796. T. S.

The

The winter of 1797 was in general healthy. During the ſpring, which was cold and wet, no diſeaſes of any conſequence occurred. The ſpring vegetables were late in coming to maturity, and there were every where in the neighbourhood of Philadelphia ſcanty crops of hay. In June and July, there fell but little rain. Dyſenteries, choleras, ſcarlitina, and mumps, appeared in the ſuburbs in the latter month. On the 8th of July I viſited Mr. Friſk, and on the 25th of the ſame month I viſited Mr. Charles Burrel in the yellow fever in conſultation with Dr. Phyſick. They both recovered by the plentiful uſe of depleting remedies.

The weather from the 2d to the 9th of Auguſt was rainy. On the 1ſt of this month I was called to viſit Mr. Nathaniel Lewis in a violent bilious fever. On the 3d I viſited Mr. Eliſha Hall with the ſame diſeaſe. He had been ill ſeveral days before I ſaw him. Both theſe gentlemen died on the 6th of the month. They were both very yellow after death. Mr. Hall had a black vomiting on the day he died.

The news of the death of theſe two citizens, with unequivocal ſymptoms of yellow fever, excited a general alarm in the city. Attempts were made

to

to trace it to importation, but a little inveſtigation ſoon proved that it was derived from the foul air of a ſhip which had juſt arrived from Marſeilles, and which diſcharged her cargo at Pine ſtreet wharf, near the ſtores occupied by Mr. Lewis and Mr. Hall. Many other perſons about the ſame time were affected with the fever from the ſame cauſe, in Water and Penn ſtreets. About the middle of the month, a ſhip from Hamburgh communicated the diſeaſe, by means of her foul air, to the village of Kenſington. It prevailed moreover in many inſtances in the ſuburbs, and in Kenſington from putrid exhalations from gutters and marſhy grounds, at a diſtance from the Delaware, and from the foul ſhips which have been mentioned. Proofs of the truth of each of theſe aſſertions ſhall be given in their proper place.

The diſeaſe was confined chiefly to the diſtrict of Southwark and the village of Kenſington for ſeveral weeks. In September and October many caſes occurred in the city, but moſt of them were eaſily traced to the above ſources.

The following account of the weather during the months of Auguſt, September and October was obtained from Mr. Thomas Pryor. It is different from the weather in 1793. It is of conſequence

quence to attend to this fact, inasmuch as it shows that an inflammatory constitution of the atmosphere can exist under different circumstances of the weather. It likewise accounts for the variety in the symptoms of the fever in different years and countries. Such is the influence of season and climate upon the symptoms of this fever, that it led Dr. M'Kitterick to suppose that the yellow fever of Charleston, so accurately described by Dr. Lining in the 2d volume of the Physical and Literary Essays of Edinburgh, was a different disease from the yellow fever of the West Indies. *

METEOROLOGICAL OBSERVATIONS, MADE IN PHILADELPHIA, AUGUST, 1797.

	Thermometer.	Barometer.	WINDS and WEATHER.
1	73 to 75	30 0	S. E. E. Rain in the forenoon and afternoon.
2	72 to 76	30 0	N. E. by E. Cloudy with rain in the afternoon and night. Wind E. by N.
3	72 to 78	30 6	E. ½ N. Rain in the morning, and all day and night.
4	72 to 78	30 4	E. Rained hard all day and at night.

* De febre Indiæ Occidentalis maligna flava, p. 12.

	Therm.	Baro.	WINDS and WEATHER.
5	74 to 79	29 84	Wind light—S. W. Cloudy. Rain this morning. The air extremely damp; wind ſhifted to N. W. This evening heavy ſhowers, with thunder.
6	73 to 76	30 86	W. N. W. Cloudy.
7	70 to 76	30 4	N. W. Cloſe day. Rain in the evening and all night. Wind to E.
8	72 to 76	29 95	E. Rain this morning.
9	72 to 76	29 86	S. W. Cloudy morning.
10	69 to 73	30 16	N. W. Clear.
11	70 to 73½	30 25	N. W. Clear. Rain all night.
12	71 to 74	30 5	S. W. Cloudy. Rain in the morning.—Cloudy all day.—Rain at night.
13	73 to 75	29 87	S. W. Cloudy. Rain all day.
14	70 to 74	29 9	N. W. Clear fine morning.
15	56 to 60	30 15	N. W. Clear fine morning.
16	60 to 64	30 24	N. W. Clear fine morning.
17	60 to 65	30 24	N. W. Air damp.
18	68 to 75	30 4	S. W. Cloudy. Rain, with thunder at night—a fine ſhower.
19	72 to 78	29 7	N. W. Clear. Cloudy in the evening, with thunder.
20	70 to 77	29 8	W. N. W. Fine clear morning.
21	74 to 76	29 9	N. W. Clear to E.
22	68 to 76		E. Small ſhower this morning.—— Hard ſhower at 11, A. M. Wind N. E.
23	71 to 76	29 92	E. Cloudy. At noon calm.
24	71 to 75	29 95	Calm morning and clear.
25	70 to 75	30 5	N. E. Clear. Rain in the afternoon, with thunder.

	Therm.	Baro.	WINDS and WEATHER.
26	70 to 75	30 5	S. E. Rain in the morning. Rained hard in the night, with thunder N. W.
27	68 to 76	29 9	N. W. Fine clear morning.
28	64 to 75	29 96	N. W. Clear.
29	59 to 70	30 0	E. Clear.
30	70 to 76	30 1	E. by S. Rain in the morning.
31	68 to 74	30 14	S. E. Cloudy. Damp air and ſultry.

SEPTEMBER, 1797.

	Thermometer	Barometer.	WINDS and WEATHER.
1	73 to 80	30 6	S. W. Cloudy. Damp air. Rain in the morning.
2	79 to 80	29 9	N. W. Clear. Cloudy in the evening, with lightning to the ſouthward.
3	68 to 74	30 0	N. by W. Cloudy. Clear in the afternoon and night.
4	66 to 74	30 7	W. N. W. Clear fine morning.
5	58 to 72½	30 1	N. W. Clear. Cloudy in the evening.
6	58 to 72	30 13	Freſh at E. Clear. Rain in the evening.
7	56 to 76	30 28	E. Clear. Cloudy in the evening.
8	54 to 65	30 1	N. E. Clear and cool morning.—— Flying clouds at noon.
9	56 to 65	30 1	E. N. E. Clear.
10	58 to 63	30 26	N. E. Clear fine morning. Wind freſh at N. E. all day.

	Therm.	Baro.	WINDS and WEATHER.
11	53 to 64	30 13	N. to E. with flying clouds.
12	51 to 62	30 6	W. N. W. Clear cool morning.
13	56 to 67	30 3	S. W. Cloudy. Clear in the afternoon.
14	64 to 70	29 98	S. W. Clear.
15	66 to 73	29 85	S. W. Rain in the morning. Cloudy in the afternoon.
16	62 to 70	29 95	N. W. Clear.
17	56 to 67	30 0	N. W. Clear.
18	58 to 63	29 88 to 29 62	E. Cloudy. Rained all day, and thunder. Rained very heavy at night.
19	55 to 63	29 75	W. N. W. Clear fine morning.
20	47 to 63	30 8	W. N. W. Clear fine morning. ☽ Moon at 9 50 morning.
21	46 to 60	30 0	N. E. Clear fine morning;—to S. E. in the evening. Cloudy at night.
22	56 to 65	30 4	N. W. Rain in the morning. Rain at night.
23	56 to 66	30 0	N. N. E. Cloudy.
24	52 to 66	29 9 to 29 78	E. by S. Clear fine morning. Cloudy at night.
25	56 to 68	29 37	W. N. W. Clear fine morning—clear all day.
26	58 to 68	29 95	E. In the morning flying clouds.
27	48 to 63	30 2	N. W. Clear fine morning—clear all day.
28	54 to 63	30 2	W. N. W. Clear fine morning—clear all day.
29	54 to 63	30 15	E. Clear fine morning.
30	60 to 65	30 26	E. Freſh. Cloudy morning. Rain in the night.

OCTOBER,

OCTOBER, 1797.

	Thermometer.	Barometer.	WINDS and WEATHER.
1	55 to 65	30 16	N. E. Rain this morning and great part of the day.
2	55 to 66	30 0	N. W. Clear.
3	60 to 70	29 9	S. E. Clear. Air damp.
4	60 to 70	29 5	W. N. W. Rain this morning.
5	46 to 60	30 0	W. N. W. to S. by W. in the evening. Clear all day. White froſt this morning.
6	55 to 65	30 0	S. W. Clear fine morning. White froſt.
7	56 to 76	30 0	S. W. Cloudy. Rain in the night.
8	56 to 70	30 29	S. Cloudy this morning—air damp. Wind ſhifted to W. N. W. Blows freſh.
9	50 to 60	29 85	W. N. W. Clear morning. Freſh at N. W. in the evening.
10	40 to 58	30 1	W. N. W. Clear. Froſt this morning.
11	38 to 56	30 2	W. N. W. Cloudy.
12	34 to 52	30 38	W. N. W. Clear. Ice this morning.
13	35 to 55	30 5	N. Clear fine morning. Ice this morning.
14	40 to 60	30 28	N. E. Cloudy.
15	50 to 65	30 16	W. N. W. Clear.
16	36 to 56	30 2	W. N. W. Clear fine morning.
17	37 to 56	30 18	W. N. W. Clear fine morning.
18	47 to 60	29 86	W. N. W. Clear fine weather.
19	48 to 60	30 6	N. W. Clear fine day.

	Therm.	Baro.	WINDS and WEATHER.
20	42 to 55	30 8	N. E. Cloudy. Rain in the afternoon and night. Blows freſh at N. E.
21	42 to 50	29 92	N. E. Blows freſh, (with a little rain.)—Thunder in the night, with rain.
22	44 to 56	29 57	N. W. Rain in the morning.
23	44 to 56	29 95	S. W. Clear fine morning.
24	42 to 54	30 5	N. E. Cloudy. A great deal of rain in the night.
25	40 to 52	30 15	N. E. Clear fine morning.
26	36 to 48	30 29	W. N. W. Clear.
27	34 to 46	30 23	Freſh at S. W. Clear.
28	40 to 52	29 95	W. N. W. Cloudy.
29	34 to 46	29 82	W. Cloudy.
30	32 to 42	29 93	N. W. Clear. Hard froſt this morning.
31	38 to 48	30 18	W. S. W. Cloudy part of this day; clear the remainder.

In addition to the regiſter of the weather, it may not be improper to add, that muſquetoes were more numerous during the prevalence of the fever than in 1793. An unuſual number of ants and cock-roaches were likewiſe obſerved; and it was ſaid that the martins and ſwallows diſappeared for a while, from the city and its neighbourhood.

A diſeaſe prevailed among the cats ſome weeks before the yellow fever appeared in the city. It excited

excited a belief in an unwholeſome ſtate of the atmoſphere, and apprehenſions of a ſickly fall. It was generally fatal.

After the firſt week in September, there were no diſeaſes to be ſeen but yellow fever. In that part of the town which is between Walnut and Vine ſtreets it was uncommonly healthy. A ſimilar retreat of inferior diſeaſes has been obſerved to take place during the prevalence of the plague in London, Holland, and Germany, according to the hiſtories of that diſeaſe by Sydenham, Diemerbroek, Sennertus and Hildanus. It appears from the regiſter of the weather, that it rained during the greateſt part of the day on the 1ſt of October. The effects of this rain upon the diſeaſe ſhall be mentioned hereafter. On the 10th the weather became cool, and on the nights of the 12th and 13th of the month, there was a froſt accompanied with ice, which appeared to give a ſudden and complete check to the diſeaſe. *

* It has been ſuppoſed that the yellow fever is checked only by heavy rains and froſt. Dr. Irvine lately informed me, that the caſes of it were always leſſened in Charleſton in the year 1796 when the wind came from the eaſt or ſouth eaſt, and that they revived when it blew from the weſt or ſouth weſt.

The reader will probably expect an account of the effects of this diſtreſſing epidemic upon the public mind.—The terror of the citizens for a while was very great. Rumors of an oppoſite and contradictory nature of the increaſe and mortality of the fever were in conſtant circulation. A ſtoppage was put to buſineſs, and it was computed that about two-thirds of the inhabitants left the city.

The legiſlature of the ſtate early paſſed a law granting 10,000 dollars for the relief of the ſufferers by the fever. The citizens in and out of town, as alſo many of the citizens of our ſiſter ſtates, contributed more than that ſum for the ſame charitable purpoſe. This money was iſſued by a committee appointed by the governor of the ſtate. A hoſpital for the reception of the poor was eſtabliſhed on the eaſt ſide of the river Schuylkill, and amply provided with every thing neceſſary for the accommodation of the ſick. Tents were likewiſe pitched on the eaſt ſide of Schuylkill, to which all thoſe people were invited who were expoſed to the danger of taking the diſeaſe, and who had not means to provide a more comfortable retreat for themſelves in the country.

I am ſorry to add, that the moral effects of the fever upon the minds of our citizens were confined chiefly

chiefly to theſe acts of benevolence. Many of the publications in the newſpapers upon its exiſtence, mode of cure and origin, partook of a virulent ſpirit which illy accorded with the diſtreſſes of the city. It was a cauſe of lamentation likewiſe to many ſerious people, that the citizens in general were leſs diſpoſed than in 1793, to acknowledge the agency of a divine hand in their afflictions. In ſome, a levity of mind appeared upon this ſolemn occaſion. A worthy bookſeller gave me a melancholy proof of this aſſertion, by informing me, that he had never been aſked for playing cards ſo often in the ſame time, as he had been during the prevalence of the fever.

Philadelphia was not the only place in the United States which ſuffered by the yellow fever. It prevailed at the ſame time at Providence in Rhode Iſland, at Norfolk in Virginia, at Baltimore, and in many of the country towns of New England, New Jerſey, and Pennſylvania.

The influenza followed the yellow fever as it did in the year 1793. It made its appearence in the latter end of October, and affected chiefly thoſe citizens who had been out of town.

The

The weather became ſeverely cold about the middle of November, and continued ſo during the greateſt part of the winter. The navigation of the Delaware was completely obſtructed on the 5th of December. Caſes of bilious pleuriſy and of the hydrocephalic ſtate of fever, were common in all the winter months. They yielded in every inſtance which came under my care, to copious depletion by the lancet, and mercury.

In the months of February and March, a catarrhal fever, attended in ſome inſtances with ſymptoms of cynanche trachealis, prevailed among children. It was cured by gentle pukes, purges of calomel and blood-letting. I bled a child of Mr. Piſſo, of ſix weeks old, twice, and a child of Mr. Billington, of three weeks old, once in this fever, and thereby I believe ſaved their lives.

The prediſpoſing cauſes of the yellow fever in the year 1797 were the ſame as in the year 1793. Strangers were as uſual moſt ſubject to it. The heat of the body in ſuch perſons in the Weſt Indies has been found to be between three and four degrees above that of the temperature of the natives. This fact is taken notice of by Dr. M'Kitterick, and to this he aſcribes, in part, the prediſpoſition of new comers to the yellow fever.

In

In addition to the common exciting cauſes of this diſeaſe formerly enumerated, I have only to add, that it was induced in one of my patients by ſmoaking a ſegar. He had not been accuſtomed to the uſe of tobacco.

I ſaw no new premonitory ſymptoms of this fever except a tooth-ach. It occurred in Dr. Phyſick, Dr. Caldwell, and in Mr. Bellenger, one of my pupils. In Miſs Elliot there was ſuch a foreneſs in her teeth, that ſhe could hardly cloſe her mouth on the day in which ſhe was attacked by the fever. Neither of theſe perſons had taken mercury to obviate the diſeaſe.

I ſhall now deliver a ſhort account of the ſymptoms of the yellow fever, as they appeared in ſeveral of the different ſyſtems of the body.

I. There was but little difference in the ſtate of the pulſe in this epidemic from what has been recorded in the fevers of 1793 and 1794. I perceived a pulſe in ſeveral caſes which felt like a ſoft quill which had been *ſhattered* by being trodden upon. It occurred in Dr. Jones and Dr. Dobell, and in ſeveral other perſons who had been worn down by great fatigue, and it was in every inſtance, followed by a fatal iſſue of the fever. In Dr. Jones this

this ſtate of the pulſe was accompanied with ſuch a difficulty of breathing, that every breath he drew on the day of his attack, he informed me, was the effort of a ſigh. He died on the 17th of September, and on the ſixth day of his fever.

The action of the arteries was as uſual very irregular in many caſes. In ſome there was a diſtreſſing throbbing of the veſſels in the brain, and in one of my patients a ſimilar ſenſation in the bowels, but without pain.—Many people had iſſues of blood from their bliſters in this fever.

I ſaw nothing new in the effects of the fever upon the liver, lungs, brain, nor upon the ſtomach and bowels.

II. The excretions were diſtinguiſhed by no unuſual marks. I met with no recoveries where there were not black ſtools. They excoriated the rectum in Dr. Way. It was a happy circumſtance where morbid bilious matter came away in the beginning of the diſorder. But it frequently reſiſted the moſt powerful cathartics until the 5th or 7th day of the fever, at which time it appeared rather to yield to the diſorganization of the liver than to medicine. Where ſufficient blood-letting had been previouſly uſed, the patient frequently recovered, even after

after the black diſcharges from the bowels took place in a late ſtage of the diſeaſe.

Dr. Coxe informed me that he attended a child of ſeventeen months old which had *white* ſtools for ſeveral days. Towards the cloſe of its diſeaſe, it had black ſtools, and ſoon afterwards died.

Dr. Stewart ventured to taſte the black matter which was diſcharged from the ſtomach juſt before death in two inſtances. In both caſes it bliſtered his tongue.

Several of my patients diſcharged worms during the fever. In one inſtance they were diſcharged from the mouth.

A preternatural frequency in making pale water attended the firſt attack of the diſeaſe in Mr. Joſeph Fiſher.

A diſcharge of an unuſual quantity of urine preceded, a few hours, the death of the daughter of Mrs. Read.

In two of my patients there was a total ſuppreſſion of urine. In one of them it continued five days without exciting any pain.

There

There was no diſpoſition to ſweat after the firſt and ſecond days of the fever. Even in thoſe ſtates of the fever in which the intermiſſions were moſt complete, there was ſeldom any moiſture or even ſoftneſs on the ſkin. This was ſo characteriſtic of malignity in the bilious fever, that where I found the oppoſite ſtate of the ſkin towards the cloſe of a paroxyſm, I did not heſitate to encourage my patient, by aſſuring him that his fever was of a mild nature, and would moſt probably be ſafe in its iſſue.

III. I ſaw no unuſual marks of the diſeaſe in the nervous ſyſtem. The mind was ſeldom affected by delirium after the loſs of blood. There was a diſpoſition to ſhed tears in two of my patients. One of them wept during the whole time of a paroxyſm of the fever. In one caſe I obſerved an uncommon dulneſs of apprehenſion, with no other mark of a diſeaſed ſtate of the mind. It was in a man whoſe faculties in ordinary health, acted with celerity and vigor.

Dr. Caldwell informed me of a ſingular change which took place in the operations of his mind during his recovery from the fever. His imagination carried him to an early period of his life, and engaged him for a day or two in playing with a bow and arrow, and in amuſements of which he had been

been fond when a boy. A ſimilar change occurred in the mind of my former pupil Dr. Fiſher, during his convaleſcence from the yellow fever in 1793. He amuſed himſelf for two days in looking over the pictures of a family Bible which lay in his room, and declared that he found the ſame kind of pleaſure in this employment that he did when a child. However unintereſting theſe facts may now appear, the time will come, when they may probably furniſh uſeful hints for completing the phyſiology, and pathology of the mind.

Where blood-letting had not been uſed, patients frequently died of convulſions.

IV. The ſenſes of ſeeing and feeling were impaired in ſeveral caſes. Mrs. Bradford's viſion was ſo weak that ſhe hardly knew her friends at her bedſide. I had great pleaſure in obſerving this alarming ſymptom ſuddenly yield to the loſs of four ounces of blood.

Several perſons who died of this fever, did not from the beginning to the end of the diſeaſe feel any pain. I ſhall hereafter endeavour to explain the cauſe of this inſenſible ſtate of the nerves.

The

The appetite for food was unimpaired for three days in Mr. Andrew Brown, at a time when his pulſe indicated a high grade of the fever. I heard of ſeveral perſons who ate with avidity juſt before they died.

V. Glandular ſwellings were very uncommon in this fever. I ſhould have aſcribed their abſence to the copious uſe of depleting remedies in my practice, had I not been informed that morbid affections of the lymphatic glands were unknown in the city hoſpital where blood-letting was ſeldom uſed, and where the patients in many inſtances died before they had time to take medicine of any kind.

VI. The ſkin was cool, dry, ſmooth, and even ſhining in ſome caſes. Yellowneſs was not univerſal. Thoſe ſmall red ſpots which have been compared to muſqueto bites, occurred in ſeveral of my patients. Dr. John Duffield, who acted as houſe ſurgeon and apothecary at the city hoſpital, informed me that he ſaw vibices on the ſkin in many caſes, and that they were all more or leſs ſore to the touch.

VII. The blood was diſſolved in a few caſes. That appearance of the blood which has been compared to the waſhings of fleſh, was very common. It was more or leſs ſizy towards the cloſe of the diſ-

caſe

caſe in moſt caſes. I have ſuſpected, from this circumſtance, that this mark of ordinary morbid action, or inflammation, was in part the effect of the mercury acting upon the blood-veſſels. It is well known that ſizy blood generally accompanies a ſalivation. If this conjecture be well founded, it will not militate againſt the uſe of mercury in malignant fevers, for it ſhews that this valuable medicine poſſeſſes a power of changing an extraordinary and dangerous degree of morbid action in the blood-veſſels, to that which is more common and ſafe. I have ſeldom ſeen a yellow fever terminate fatally after the appearance of ſizy blood.

Dr. Stewart informed me that in thoſe caſes in which the ſerum of the blood had a yellow colour, it imparted a ſaline taſte only to his tongue. He was the more ſtruck with this fact, as he perceived a ſtrong bitter ſtate upon his ſkin in a ſevere attack of the yellow fever in 1793.

I proceed next to take notice of the type of the fever.

In many caſes it appeared in the form of a remitting and intermitting fever. The quotidian and tertian forms were moſt common. In Mr. Robert Wharton it appeared in the form of a quartan.

But

But it frequently aſſumed the character which is given of the ſame fever in Charleſton by Dr. Lining. It came on without chills, and continued without any remiſſion for three days; after which the patient believed himſelf to be well, and ſometimes roſe from his bed, and applied to buſineſs. On the fourth or fifth day the fever returned, and unleſs copious evacuations had been uſed in the early ſtage of the diſeaſe, it generally proved fatal. Sometimes the powers of the ſyſtem were depreſſed below the return of active fever, and the patient ſunk away by an eaſy death without pain, heat, or a quick pulſe. I have been much puzzled to diſtinguiſh a criſis of the fever on the third or fourth day, from the inſidious appearance which has been deſcribed. It deceived me in 1793. It may be known by a preternatural coolneſs in the ſkin, and languor in the pulſe, by an inability to ſit up long without fatigue, or faintneſs, by a dull eye, and by great depreſſion of mind, or ſuch a flow of ſpirits as ſometimes to produce a declaration from the patient that "he feels too well." Where theſe ſymptoms appear, the patient ſhould be informed of his danger, and urged to the continuance of ſuch remedies as are proper for him.

The following ſtates or forms were obſervable in the fever:

1. In

1. In a few cases the contagion or miasmata produced death in four and twenty hours with convulsions, coma, or apoplexy.

2. There were OPEN cases in which the pulse was full and tense as in a pleurisy or rheumatism from the beginning to the end of the fever. They were generally attended with a good deal of pain.

3. There were depressed or LOCKED cases, in which there were a sense of great debility, but little or no pain, a depressed and slow pulse, a cool skin, cold hands and feet, and obstructed excretions.

4. There were DIVIDED or MIXED cases in which the pulse was active until the 4th day, after which it became depressed. All the other symptoms of the locked state of the fever accompanied this depressed state of the pulse.

5. There were cases in which the pulse imparted a perception like that of a soft and SHATTERED quill. I have before mentioned that this state of the pulse occurred in Dr. Jones and Dr. Dobell. I felt it but once and on the day of his attack in the latter gentleman, and expressed my opinion of his extreme danger to my son upon my return from visiting

viſiting him. I did not meet with a caſe which terminated favourably, where I perceived this SHATTERED pulſe. A diſpoſition to ſweat occurred in this ſtate of the fever.

6. There were what Dr. Caldwell happily called WALKING caſes. The patients here were fluſhed or pale, had a full or tenſe pulſe, but complained of no pain, had a good appetite, and walked about their rooms or houſes as if they were but little indiſpoſed until a day or two, and in ſome inſtances, until a few hours before they died. The impreſſion of the remote cauſe of the fever in theſe caſes was beyond ſenſation, for upon removing a part of it by bleeding or purging, the patients complained of pain, and the excitement of the muſcles paſſed ſo completely into the blood-veſſels and alimentary canal, as to convert the fever into a common and more natural form. Theſe caſes were always dangerous, and when neglected, generally terminated in death. Mr. Brown's fever came on in this inſidious ſhape. It was cured by the loſs of upwards of an 100 ounces of blood, and a plentiful ſalivation.

7. There was the INTERMITTING form in this fever. This, like the laſt, often deceived the patient by leading him to ſuppoſe his diſeaſe was of a common or trifling nature. It prevented Mr. Richard Smith

Smith from applying for medical aid in an attack of the fever for ſeveral days, by which means it made ſuch an impreſſion upon his viſcera, that depleting remedies were in vain uſed to cure him. He died in the prime of life, beloved and lamented by a numerous circle of relations and friends.

8. There was a form of this fever in which it reſembled the mild remittent of common ſeaſons. It was diſtinguiſhed from it chiefly by the black colour of the inteſtinal evacuations.

9. There were caſes of this fever ſo light, that patients were ſaid to be neither *ſick*, nor *well*: or in other words, they were ſick and well, half a dozen times in a day. Such perſons walked about, and tranſacted their ordinary buſineſs, but complained of dulneſs, and occaſionally, of ſhooting pains in their heads. Sometimes the ſtomach was affected with ſickneſs, and the bowels with diarrhœa or coſtiveneſs. All of them complained of night ſweats. The pulſe was quicker than natural, but ſeldom had that convulſive action which conſtitutes fever. Purges always brought away black ſtools from ſuch patients, and this circumſtance ſerved to eſtabliſh its relationſhip to the prevailing epidemic. Now and then by neglect, or improper treatment, it aſſumed a higher and more dangerous grade of the fever, and

became fatal, but it more commonly yielded to nature, or to a ſingle doſe of purging phyſic.

10. There were a few caſes in which the ſkin was affected with univerſal yellowneſs, but without more pain or indiſpoſition than uſually occurs in the jaundice. They were very frequent in the year 1793, and generally prevail in the autumn, in all places ſubject to bilious fever.

11. There were CHRONIC caſes of this fever. It is from the want of obſervation that phyſicians limit the duration of the yellow fever to certain days. I have ſeen many inſtances in which it has been protracted into what is called by authors a ſlow nervous fever. The wife of captain Peter Bell died of a black vomiting after an illneſs of nearly one month. Dr. Pinckard formerly one of the phyſicians of the Britiſh army in the Weſt Indies, in a late viſit to this city informed me, that he had often ſeen the yellow fever put on a chronic form in the Weſt India Iſlands.

In delivering this detail of the various forms of the yellow fever, I am aware that I oppoſe the opinions of many of my medical brethren who aſcribe to it, a certain uniform character which is removed beyond the influence of climate, habit, prediſpoſition, and the different ſtrength and combinations of remote and exciting

exciting cauſes.—This uniformity in the ſymptoms of this fever is ſaid to exiſt in the Weſt Indies, and every deviation from it in the United States is called by another name. The following communication which I received from Dr. Pinkard will ſhew that this diſeaſe is as different in its forms in the Weſt Indies, as it is in this country.

" The yellow fever, as it appeared, among the " troops, in Guiana, and the Weſt India Iſlands, " in the years 1796, and 1797, exhibited ſuch " perpetual inſtability, and varied ſo inceſſantly in " its character, that I could not diſcover any one " ſymptom to be, decidedly diagnoſtic; and, hence, " I have been led into an opinion that the yellow " fever, ſo called, is not a diſtinct, or ſpecific, " diſeaſe, but, merely, an aggravated degree of the " common remittent or bilious fever of hot climates, " rendered irregular in form, and augmented in " malignity, from appearing in ſubjects unaccuſ- " tomed to the climate."

Philadelphia, January 12th, 1798.

Many other authorities equally reſpectable with Dr. Pinckard's, among whom are Pringle, Huck, and Hunter, might be adduced in ſupport of the unity of bilious fever. But to multiply them further, would be an act of homage to the weakneſs

of human reaſon, and an acknowledgement of the infant ſtate of our knowledge in medicine. As well might we ſuppoſe nature to be an artiſt, and that diſeaſes were ſhaped by her like a piece of ſtatuary, or a ſuit of clothes, by means of a chiſſel, or pair of ſciſſars, as admit every different form and grade of morbid action in the ſyſtem, to be a diſtinct diſeaſe.

Notwithſtanding the fever put on the eleven forms which have been deſcribed, the moderate caſes were few, compared with thoſe of a malignant and dangerous nature. It was upon this account that the mortality was greater in the ſame number of patients, who were treated with the ſame remedies, than it was in the years 1793 and 1794. The diſeaſe moreover partook of a more malignant character than the two epidemics that have been mentioned. The yellow fever in Norfolk, Drs. Taylor and Hansford informed me in a letter I received from them, was much more malignant and fatal under equal circumſtances than it was in 1795.

During the prevalence of the fever I attended the following perſons who had been affected by the epidemic of 1793—viz. Dr. Phyſick, Thomas Leaming, Thomas Canby, Samuel Bradford, and George Loxley, alſo Mrs. Eggar who had a violent attack of

of it in the year 1794. Samuel Bradford was likewiſe affected by it in 1794.

There are two opinions which verge to equal extremes upon the ſubject of the contagious nature of the yellow fever. While moſt of the Weſt India phyſicians deny its contagious quality altogether, many American phyſicians act as if they believed it could be communicated by the deck of a ſhip, after ſhe has performed a voyage from a tropical country. In a Weſt India climate where the accumulation of the effluvia from ſick people is prevented by open doors and windows, it is eaſy to conceive this fever cannot be often propagated by contagion. Even in our own country it has rarely been obſerved to be contagious, in the months of July and Auguſt. But after cool weather renders it neceſſary to exclude the freſh air from ſick rooms, it is as eaſy to conceive the ſame effluvia may be ſo accumulated, and concentrated, as to produce the diſeaſe in other people. In this way it was propagated in ſome inſtances during the year 1797, but by no means ſo often as in 1793 under equal circumſtances. The reaſon of this difference in the contagious nature of this fever in thoſe two years muſt be ſought for in the difference of the ſenſible qualities of the atmoſphere.

During

During my intercourſe with the ſick, I felt the contagion of the fever operate upon my ſyſtem in the moſt ſenſible manner. It produced languor, a pain in my head, and ſickneſs at my ſtomach. A ſighing attended me occaſionally for upwards of two weeks. This ſymptom left me ſuddenly, and was ſucceeded by a hoarſeneſs, and at times, with ſuch a feebleneſs in my voice as to make ſpeaking painful to me. Having obſerved this affection of the trachea, to be a precurſor of the fever in ſeveral caſes, it kept me under daily apprehenſions of being confined by it. It gradually went off after the 1ſt of October. I aſcribed my recovery from it, and a ſudden diminution of the effects of the contagion upon my ſyſtem, to a change produced in the atmoſphere by the rain which fell on that day.

The contagion acted in a peculiar manner upon Dr. Dobell. It induced a ſneezing every time he went into a ſick room.

The gutters emitted in many places, a ſulphurious ſmell during the prevalence of the fever. Upon rubbing my hands together I could at any time excite a ſimilar ſmell in them. I have taken notice of this effect of the matters which produced the diſeaſe, upon the body, in the year 1794.

In

In order to prevent an attack of the fever, I carefully avoided all its exciting cauſes. I reduced my diet, and lived ſparingly upon tea, coffee, milk, and the common fruits and garden vegetables of the ſeaſon, with a ſmall quantity of ſalted meat, and ſmoked herring. My drinks were milk and water, weak claret and water, and weak porter and water. I ſheltered myſelf as much as poſſible from the rays of the ſun, and from the action of the evening air, and accommodated my dreſs to the changes in the temperature of the atmoſphere. By ſimilar means, I have reaſon to believe, many hundred people eſcaped the diſeaſe who were conſtantly expoſed to it. There appears to be no combination of climate and miaſmata that can reſiſt the good effects of abſtinence or depleting medicines in preventing, or moderating an attack of this fever. Of this Dr. Borland of the Britiſh military hoſpitals in the Weſt Indies has lately furniſhed me with the following proof. "In "the beginning of Auguſt 1797 (ſays the Doctor "in a report which he politely put into my hands) "109 Dutch artillery arrived at Port-au-Prince in "the Bangalore tranſport. The florid appearance "of the men, their heavy cumberſome cloathing, "and the ſeaſon of the year, ſeemed all unfavour-"able omens of the melancholy fate we preſumed "awaited them. It was however thought a favour-"able opportunity by Dr. Jackſon and myſelf to

"try

" try what could be done in warding off the fever. " It was accordingly ſuggeſted to Monſieur Con- " turier the chief ſurgeon of the foreign troops, " and the ſurgeon of the regiment, that the whole " detachment ſhould be blooded freely, and that the " morning after a doſe of phyſic ſhould be admini- " ſtered to every man. This was implicitly complied " with in a day or two after, and at this moment in " which I write, although a period of four months " has elapſed, but two of that detachment have died, " one of whom was in a dangerous ſtate when he " landed. A ſucceſs unparalleled during the war in " St. Domingo! It is true ſeveral have been attack- " ed with the diſeaſe, but in thoſe, the ſymptoms " were leſs violent, and readily ſubſided by the early " uſe of the lancet.

" The crew of the Bangalore on her arrival at " Port-au-Prince conſiſted of twenty eight men. " With them no preventive plan was followed: in a " very few weeks eight died, and at preſent, of the " original number but fourteen remain."

I met with one inſtance in which a light attack of the fever was excited by the breath of a perſon who was infected, but in whom the diſeaſe had not made its appearance.

One

One of my patients who was under a ſalivation waſhed his mouth with milk, and diſcharged it into a baſon. Two cats licked up part of this milk. They both ſickened immediately, with the ſymptoms of fever. One of them died on the 4th and the other on the 7th day afterwards.

The number of deaths by the fever in the months of Auguſt, September and October, amounted to between ten and eleven hundred. In the liſt of the dead were nine practitioners of phyſic, ſeveral of whom were gentlemen of the moſt reſpectable characters. This number will be thought conſiderable when it is added, that not more than three or four and twenty phyſicians attended patients in the diſeaſe. Of the ſurvivors of that number, eight were affected with the fever. This extraordinary mortality and ſickneſs among the phyſicians, muſt be aſcribed to their uncommon fatigue in attending upon the ſick, and to their inability to command their time, and labours, ſo as to avoid the exciting cauſes of the fever. Among the medical gentlemen whoſe deaths have been mentioned, was my excellent friend Dr. Nicholas Way. I ſhall carry to my grave an affectionate remembrance of him. We paſſed our youth together in the ſtudy of medicine, and lived to the time of his death in the habits of the tendereſt friendſhip. In the year 1794 he

he removed from Wilmington, in the Delaware ſtate, to Philadelphia, where his talents and manners ſoon introduced him into extenſive buſineſs. His independent fortune furniſhed his friends with arguments to adviſe him to retire from the city upon the firſt appearance of the fever. But his humanity prevailed over the dictates of intereſt, and the love of life. He was active and intelligent in ſuggeſting and executing plans to arreſt the progreſs of the diſeaſe, and to leſſen the diſtreſſes of the poor. On the 27th of Auguſt he was ſeized, after a ride from the country in the evening air, with a chilly fit and fever. I ſaw him the next day, and adviſed the uſual depleting remedies. He ſubmitted to my preſcriptions with reluctance, and in a ſparing manner, from an opinion that his fever was nothing but a common remittent. To enforce obedience to my advice, I called upon Dr. Griffiths to viſit him with me. Our combined exertions to overcome his prejudices againſt our remedies were ineffectual. At two o'clock in the afternoon, on the ſixth day of his diſeaſe, with an aching heart I ſaw the ſweat of death upon his forehead, and felt his cold arm without a pulſe. He ſpoke to me with difficulty: upon my riſing from his bed ſide to leave him, his eyes filled with tears, and his countenance ſpoke a language which I ſtill feel, but am unable to deſcribe. I promiſed to return in a ſhort time,

with

with a view of attending the laſt ſcene of his life. Immediately after I left his room, he wept aloud. I returned haſtily to him, and found him in convulſions. He died a few hours afterwards. Had I met with no other affliction in the autumn of 1797 than that which I experienced from this affecting ſcene, it would have been a ſevere one, but it was a part only of what I ſuffered from the death of other friends, from the malice of enemies, and from the complicated diſtreſſes of my family. I beg the reader's pardon for this digreſſion. It ſhall be the only time, and place, in which any notice ſhall be taken of my ſorrows and perſecutions in the courſe of this publication.

It remains now to mention the origin of the fever.

Soon after the citizens returned from the country, I received the following letter from the governor of the ſtate.

" *Letter*

" *Letter from* THOMAS MIFFLIN, *Esq. Governor of the State of Pennsylvania, to Dr.* BENJAMIN RUSH.

" *Philadelphia, 6th November*, 1797.

" SIR,

" I AM desirous to obtain, for the information of the Legislature, the most correct account of the origin, progress, and nature of the disease that has recently afflicted the city of Philadelphia, with a view that the most efficacious steps should be taken to prevent a recurrence of so dreadful a calamity. I have requested the opinion of the college of physicians on the subject; but, as I understand that you and many other learned members of the faculty do not attend the deliberations of that institution, the result of my inquiries cannot be perfectly satisfactory without your co-operation and assistance. Permit me, therefore, Sir, to beg the favour of you, and of such of your brethren as you shall be pleased to consult, to state, in answer to this letter, the opinion which your researches and experience have enabled you to form on the important object of the present investigation.

I am respectfully, Sir,
Your most obedient
Humble servant,
THOMAS MIFFLIN."

" *Dr.* BENJAMIN RUSH."

To

To this letter the following anſwer was ſent, ſubſcribed by thirteen of the phyſicians of the city.

" SIR,

" IN compliance with your requeſt, the ſubſcribers have devoted themſelves to the inveſtigation of the origin, progreſs, and nature of the fever which lately prevailed in our city, and we have now the honor of communicating to you the reſult of our inquiries and obſervations.

" We conceive the fever which has lately prevailed in our city, commonly called the yellow fever, to be the bilious remitting fever of warm climates excited to a higher degree of malignity by circumſtances to be mentioned hereafter.

" Our reaſons for this opinion are as follows:

" I. The ſameneſs of their origin; both being the offspring of putrefaction. Of this there are many proofs in the hiſtories of the yellow fever in the Weſt Indies. Where there is no putrefaction, the Weſt India iſlands enjoy a perfect exemption from that diſeaſe in common with northern climates.

" II. The yellow fever makes its appearance in thoſe months chiefly in which the bilious fever prevails

vails in our country, and is uniformly checked and deſtroyed by the ſame cauſes, *viz.* heavy rains and froſts.

" III. The ſymptoms of the bilious and yellow fever are the ſame in their nature. They differ only in their degree. It is no objection to this aſſertion that there is ſometimes a deficiency or abſence of bile in the yellow fever. This ſymptom is the effect only of a torpid ſtate of the liver, produced by the greater force of the diſeaſe acting upon that part of the body. By means of depleting remedies this torpor is removed and the diſeaſe thereby made to aſſume its original and ſimple bilious character.

" IV. The common bilious and yellow fever often run into each other. By depleting remedies the moſt malignant yellow fever may be changed into a common bilious fever, and by tonic remedies, improperly applied, the common bilious fever may be made to aſſume the ſymptoms of the moſt malignant yellow fever.

" V. The common bilious and yellow fevers are alike contagious, under certain circumſtances of the weather and of prediſpoſition in the body. That the common bilious fever is contagious, we aſſert

aſſert from the obſervations of ſome of us, and from the authority of many phyſicians, who have long commanded the higheſt reſpect in medicine.

" VI. The yellow and mild bilious fevers mutually propagate each other. We conceive a belief in the unity of theſe two ſtates of fever, to be deeply intereſting to humanity, inaſmuch as it may lead patients to an early application for medical aid, and phyſicians to the uſe of the ſame remedies for each of them, varying thoſe remedies only according to the force of the diſorder. It is no objection to this opinion, that that ſtate of bilious fever called the yellow fever, is a *modern* appearance in our country. From certain revolutions in the atmoſphere as yet obſerved only, but not accounted for by phyſicians, diſeaſes have in all ages and countries alternately riſen and fallen in their force and danger. At preſent a conſtitution of the atmoſphere prevails in the United States which diſpoſes to fevers of a highly inflammatory character. It began in the year 1793. Its duration in other countries has been from one to fifty years. It is not peculiar to the common bilious fever to have put on more inflammatory ſymptoms than in former years. There is ſcarcely a diſeaſe which has not been affected in a ſimilar way by the late change in our atmoſphere, and that does not call for a greater force of depleting

ing remedies than were required to cure them before the year 1793.

" VII. And LASTLY. The yellow fever affects the ſyſtem more than once, in common with the bilious fever. Of this there were many inſtances during the prevalence of our late epidemic.

" The fever which lately prevailed in our city, appears from the documents which accompany this letter, to have been derived from the following ſources.

" I. Putrid exhalations from the gutters, ſtreets, ponds, and marſhy grounds in the neighbourhood of the city. From ſome one of theſe ſources we derive a caſe attended by Dr. Caldwell on the 9th of June—one attended by Dr. Paſcalis on the 22d July, and two caſes attended by Dr. Ruſh and Dr. Phyſick on the 5th and 15th of the ſame month; and alſo moſt of thoſe caſes of yellow fever, which appeared in the northern parts of the city, and near Kenſington bridge, in the months of Auguſt, September and October. We are the more ſatisfied of the truth of this ſource of the fever, from the numerous accounts we have received of the prevalence of the ſame fever, and from the ſame cauſes, during the late autumn in New York, and in various parts

parts of New Jerſey, Pennſylvania, Maryland, Virginia, and South Carolina, not only in ſea ports, but inland towns. The peculiar diſpoſition of theſe exhalations to produce diſeaſe and death, was evinced early in the ſeaſon by the mortality which prevailed among the cats, and during every part of the ſeaſon, by the mortality which prevailed in many parts of our country among horſes. The diſeaſe which proved ſo fatal to the latter animals, is known among the farmers by the name of the *Yellow Water*. We conceive it to be a modification of the yellow fever.

" II. A ſecond ſource of our late fever appears to have been derived from the noxious air emitted from the hold of the ſnow Navigation, capt. Linſtroom, which arrived with a healthy crew from Marſeilles on the 25th of July, and diſcharged her cargo at Latimer's wharf after a paſſage of eighty days. We are led to aſcribe the principal part of the diſeaſe which prevailed in the ſouth end of the city to this noxious air, and that for the following reaſons:

" 1. The fever appeared firſt on board this veſſel and in its neighbourhood, affecting a great number of perſons nearly at the ſame time, and ſo remote from each other that it could not be propagated by contagion.

" 2. There was in the hold of this veſſel a quantity of vegetable matters, ſuch as prunes, almonds, olives, capers, and ſeveral other articles, ſome of which were in a ſtate of putrefaction.

" 3. A moſt offenſive ſmell was emitted from this veſſel, after ſhe had diſcharged her cargo, which was perceived by perſons ſeveral hundred feet from the wharf where ſhe was moored.

" 4. A ſimilar fever has been produced from ſimilar cauſes, in a variety of inſtances: we ſhall briefly mention a few of them.

" At Tortola, a fever was produced in the month of June, in the year 1787, on board the ſhip Britannia, capt. James Welch, from the noxious air generated from a few buſhels of potatoes, which deſtroyed the captain, mate, and moſt of the crew, in a few days.

" Two ſailors were affected with a malignant fever, on board the ——, capt. Thomas Egger, in the month of March, 1797, from the noxious air produced by wine that had putrefied in the hold of the ſhip, one of whom died ſoon after her arrival at Philadelphia.

" In the month of June, 1793, the yellow fever was generated by the noxious air of ſome rotted bags

bags of pepper on board a French Indiaman, which was carried into the port of Bridgetown, by the Britiſh letter of marque Pilgrim. All the white men, and moſt of the negroes employed in removing this pepper, periſhed with the yellow fever, and the foul atmoſphere affected the town, where it proved fatal to many of the inhabitants.

" On board the Buſbridge Indiaman, a yellow fever was produced in the month of May, 1792, on her paſſage from England to Madras, which affected above two hundred of the crew. It was ſuppoſed to be derived from infection, but many circumſtances concur to make it probable that it was derived from noxious air. The abſence of ſmell in the air does not militate againſt this opinion, for there are many proofs of the moſt malignant fevers being brought on by airs which produced no impreſſion on the ſenſe of ſmelling. This is more frequently the caſe when the impure air has paſſed a conſiderable diſtance from its ſource, and becomes diluted with the purer air of the atmoſphere.

" Several caſes are related by Dr. Lind, in his treatiſe upon Fever and Infection of the Yellow Fever, originating at ſea under circumſtances which forbade the ſuſpicion of infection, and which can only be aſcribed to the impure air generated from putrid vegetables.

" So well known, and ſo generally admitted is this ſource of yellow fever in warm climates, that Dr. Shannon, a late writer upon the means of preventing the diſeaſes of warm climates, in enumerating its various cauſes, expreſsly mentions " the putrid " effluvia of a ſhip's hold."

" We wiſh due attention to be paid to theſe facts, not only becauſe they lead to the certain means of preventing one of the ſources of this fever, but becauſe they explain the reaſons, why ſailors are ſo often its firſt victims, and why from this circumſtance the origin of the diſeaſe has been ſo haſtily, but erroneouſly, aſcribed ſolely to importation.

" The fever which prevailed along the ſhore of the Delaware, in Kenſington, and which proved fatal to Mr. Joſeph Bowers and two of his family, we believe originated from the noxious air emitted from the hold of the ſhip Huldah, capt. Wm. Warner. This air was generated by the putrefaction of coffee, which had remained there during her voyage from Philadelphia to Hamburgh, and back again. *

" In the courſe of our inquiries, we were led to ſuſpect one ſource of our late fever, to be of foreign origin. The ſails of the armed ſhip Hinde, on board

* See Appendix, letter A.

board of which ſeveral perſons had died of the yellow fever, on her paſſage from Port-au-Prince, and which arrived on the 4th of Auguſt, were ſent to the ſail ſtore of Mr. Moyſe. Four perſons belonging to the loft were ſoon afterwards affected with ſymptoms of a bilious yellow fever. We ſhall not decide poſitively upon the origin of the fever in theſe caſes; but the following facts render it probable that it was not derived from the perſons who had died of it on board the ſuſpected veſſel.

" 1. The ſails emitted an offenſive ſmell; 2. three of the caſes of the perſons affected in the ſail loft were of a mild grade of the fever; 3. the fever was not propagated by contagion from any one of them; 4. the ſail loft was within the influence of the noxious air, which was emitted from the hold of the ſnow Navigation, being not more than fifty yards, and was in the direction of the wind which blew at that time over her. The extent of this air has not been accurately aſcertained, but many analogies gave us reaſon to believe that it may be conveyed by the wind, in its deleterious ſtate, from half a mile, to a mile.

" In ſupport of the opinion we have delivered of the origin of our late fever, we muſt add further, that in that part of the city which lies between Walnut

Walnut and Vine ſtreets, and which appeared to be free from the effects of exhalation and the noxious air of the ſhips, there were but few caſes of the fever which appeared to ſpread by contagion, even under the moſt favourable circumſtances for that purpoſe.

"Having pointed out the nature and origin of our late fever, we hope we ſhall be excuſed in mentioning the means of preventing it in future. Theſe are,

"FIRST, A continuance of the preſent laws for preventing the importation of the diſeaſe from the Weſt Indies, and other parts of the world where it uſually prevails.

"SECONDLY, Removing all thoſe matters from our ſtreets, gutters, cellars, gardens, yards, ſtores, vaults, ponds, &c. which by putrefaction in warm weather afford the moſt frequent remote cauſe of the diſeaſe, in this country. For this purpoſe we recommend the appointment of a certain number of phyſicians, whoſe buſineſs it ſhall be to inſpect all ſuch places in the city, the Northern Liberties and Southwark, as contain any matters capable by putrefaction of producing the diſeaſe, and to have them removed.

"THIRDLY,

" THIRDLY, We earneſtly recommend the frequent waſhing of all impure parts of the city in warm and dry weather, by means of the pumps, until the water of the Schuylkill can be made to waſh all the ſtreets of the city; a meaſure which we conceive promiſes to our citizens the moſt durable exemption from bilious fevers of all kinds, of domeſtic origin.

" FOURTHLY, To guard againſt the frequent ſource of yellow fever from the noxious air of the holds of ſhips, we recommend the unlading all ſhips, with cargoes liable to putrefaction, at a diſtance from the city, during the months of June, July, Auguſt, September and October. To prevent the generation of noxious air in the ſhips, we conceive every veſſel ſhould be obliged by law to carry and uſe a ventilator, and we recommend in a particular manner the one lately contrived by Mr. Benjamin Wynkoop.—We believe this invention to be one of the moſt important and uſeful, that has been made in modern times, and that it is calculated to prevent not only the decay of ſhips and cargoes, but a very frequent ſource of peſtilential diſeaſes of all kinds, in commercial cities.

" In thus deciding upon the nature and origin of our late fever, we expect to adminiſter conſolation

to

to our fellow citizens upon the cauſe of our late calamity; for in pointing out its origin to the ſenſes, we are enabled immediately and certainly to prevent it. But while the only ſource of it is believed to be from abroad, and while its entrance into our city is believed to be in ways ſo numerous and inſidious, as to elude the utmoſt poſſible vigilance of health officers, we are led in deſpair to conſider the diſeaſe as removed beyond the prevention of human power or wiſdom. It has been by adopting meaſures, ſimilar to thoſe we have delivered for preventing peſtilential diſeaſes, that moſt of the cities in Europe, which are ſituated in warm latitudes, have become healthy in warm ſeaſons, and amidſt the cloſeſt commercial intercourſe with nations and iſlands conſtantly afflicted with thoſe diſeaſes. The extraordinary cleanlineſs of the Hollanders was originally impoſed upon them, by the frequency of peſtilential fevers in their cities. This habit of cleanlineſs has continued to characterize thoſe people, after the cauſes which produced it, have probably ceaſed to be known.

"In thus urging a regard to the domeſtic ſources of the yellow fever, we are actuated by motives of a magnitude far beyond thoſe which determine ordinary queſtions in ſcience. Though we feel the ſtrongeſt conviction that the value of property, the

increaſe

increaſe of commerce and the general proſperity of our city, will be eminently forwarded by the adoption of the foregoing propoſitions, yet theſe are but little objects in our view, when compared with the prevention of the immenſe maſs of diſtreſs, which never fails to accompany a mortal epidemic. We conſider ourſelves moreover as deciding upon a queſtion, which is to affect the lives and happineſs, not only of the preſent inhabitants of Philadelphia, but of millions yet unborn, in every part of the globe.

" We are with the greateſt reſpect,
Sir,
Your very humble ſervants,
BENJAMIN RUSH,
CHARLES CALDWELL,
WILLIAM DEWEES,
JOHN REDMAN COXE,
PHILIP SYNG PHYSICK,
JAMES REYNOLDS,
FRANCIS BOWES SAYRE,
JOHN C. OTTO,
WILLIAM BOYS,
SAMUEL COOPER,
JAMES STUART,
FELIX PASCALIS,
JOSEPH STRONG."

Dec. 1, 1797.

A few days after the publication of this letter, the following memorial, and narrative of facts, were preſented to the legiſlature of Pennſylvania by the college of phyſicians.

MEMORIAL OF THE COLLEGE OF PHYSICIANS.

"*To the Senate and Houſe of Repreſentatives of the Commonwealth of Pennſylvania, the Memorial of the College of Phyſicians of Philadelphia reſpectfully repreſents:*

"THAT your memorialiſts, deeply affected with the calamities produced by the diſeaſe which has recently occurred amongſt us, are impelled by a ſenſe of duty to their fellow citizens and themſelves, to inform you, that they conſider the laws which were enacted for the purpoſe of preſerving this city from malignant, contagious diſorders, as very imperfect.

"The ſubject being of immenſe importance, they hope to be excuſed for ſtating their ſentiments with reſpect to it at large.

"They are of opinion, that the diſeaſe which produced ſo much mortality and diſtreſs in the year 1793,

1793, was imported into this city from the Weſt Indies; and they are confirmed in this ſentiment, by the circumſtances attending the diſeaſe of this year, which they conſider as of the ſame nature, and derived from the ſame ſource.

" Some of their moſt important reaſons for this opinion, are as follow:—The diſeaſe in queſtion is eſſentially different from the fevers that occur in this climate, and which originate from domeſtic cauſes. This difference particularly regards the general progreſs of the ſymptoms, and the mortality, as is evident upon a compariſon of its hiſtory with that of the ordinary diſeaſes of this city.

" A diſeaſe which reſembles the fever of 1793 and of this year, in many important points, has long been known in the Weſt Indies, and thoſe parts of America ſituated between the tropics; and in ſeven or eight different inſtances in which a ſimilar diſeaſe has occurred in the United States, in the courſe of this century, there is good reaſon to believe that it was derived from thoſe countries. In moſt of the inſtances, the original hiſtory of the diſeaſe contains the information that it was imported. In ſome caſes, the infection can be traced to the imported clothing of perſons who died in the Weſt Indies. In moſt of the caſes where the importation

portation cannot be aſcertained, the firſt appearance of the diſeaſe has been, as in the other inſtances, in the neighbourhood of the ſhipping, or among perſons connected with veſſels.

" The circumſtances attending the fever of this year are extremely in point; and the narrative which accompanies this, will, we truſt, ſatisfy you that it was imported.

" The diſeaſe in queſtion, commences invariably in our ſea-ports, while inland towns, equally expoſed to the ordinary cauſes of fever, eſcape; and in the two laſt inſtances of its occurrence in Philadelphia, the ſuburbs and the country adjacent, were more healthy than uſual at the ſame ſeaſon; and at the commencement of the diſeaſe, all the parts of the city, excepting the ſmall ſpaces to which it was confined, were remarkably healthy.

" It exiſts in the Weſt Indies, particularly in time of war, when great numbers of ſtrangers are to be found there; and reference to dates will ſhew, that in moſt of the inſtances of the occurrence of the diſeaſe in the United States, there has been war in the Weſt Indies.

" Your

" Your memorialiſts are aware, that caſes may be adduced where the diſeaſe has occurred in perſons, who were not known to have been expoſed to imported contagions, but ſuch is the ſubtile nature of this power, that it often exiſts unſuſpected; and ſimilar difficulties occur reſpecting the ſmall-pox, and other contagions, allowed by all to be of foreign origin. There alſo occur, although very rarely, ſolitary caſes of malignant remitting fevers, the ſymptoms of which reſemble ſo much the diſeaſe in queſtion, that they are often ſuppoſed to be the ſame; but there is this eſſential difference, that a malignant remittent fever has never been to our knowledge contagious in this climate.

" The difference of ſentiments among phyſicians, now ſo much regretted, reſembles that which almoſt always takes place, when the plague is introduced into any of the civilized parts of Europe, where it is not well known. The identity of the diſeaſe, its origin and its contagious nature, have been often the ſubject of controverſy. Some phyſicians have conſidered it as of domeſtic origin; but proper health laws, ſtrictly enforced, have latterly protected the commercial parts of Europe from its ravages.

" With theſe ſentiments of the nature of the diſeaſe, your memorialiſts cannot but regard a proper law

law reſpecting the ſubject, as a matter of the greateſt importance, and although they are perfectly ſenſible of the imperfection of the ſcience of medicine, yet from a conviction that phyſicians are the beſt informed, as well as the moſt intereſted in the ſubject, they approach you with that reſpect which is due to your legiſlative authority, and declare their belief, that the exiſting health laws of this Commonwealth are not ſuch as are beſt calculated to obtain the deſired end, and that they ought to be improved.

" Having lately communicated in writing to the governor their ideas reſpecting the beſt methods of preventing the introduction of contagious diſeaſes, they beg leave to refer you to that communication. At the ſame time they tender you their profeſſional aſſiſtance in framing an efficient law for this purpoſe; and thus having performed their duty, they hold themſelves diſcharged from all reſponſibility, on account of the evils which may ariſe from the preſent imperfect ſtate of the legiſlative arrangements reſpecting this important ſubject.

By order of the College,

Attest, JOHN REDMAN, *Preſident.*"

" THOMAS C. JAMES, *Secretary.*"

" *Philadelphia, Dec. 5th,* 1797."

" *Narrative*

" *Narrative of facts relative to the probable origin, and progreſs, of the malignant contagious fever which lately appeared at the junction of Penn and Pine ſtreets.*

" THE ſhip Arethuſa, Captain Keith, ſailed about June 1, 1797, from Port Royal in Jamaica for the Havannah, with ſlaves; during the paſſage two men died with a fever, which Mr. Stephen Kingſton, a gentleman of this city, who was a paſſenger on board, and has frequently ſeen the diſeaſe, believes to have been the yellow fever, one having the black vomit. After remaining ſome days at the Havannah, the veſſel proceeded for Philadelphia, and arrived in the ſtream oppoſite to Pine ſtreet, July 23, 1797. At the capes of Delaware ſhe took on board a pilot, and performed a quarantine of five days at State Iſland. The pilot was attacked with a fever, the day of their arrival at the city, and went on ſhore the ſame day, when he was viſited by Dr. Currie, who has been much converſant with the yellow fever, and was ſo ſenſible of the reſemblance of his ſymptoms to thoſe of that diſeaſe, that he mentioned the caſe as ſuſpicious, to one of his friends.

" The Arethuſa was moored at Mr. Joſeph Ruſſell's wharf, outſide of two veſſels which lay there when

when ſhe arrived, her crew left her immediately after ſhe was moored, and the next day returned for their clothing, &c. when they croſſed and recroſſed the above mentioned ſhips. Two boys only and the captain (who was on board occaſionally) compoſed the crew of the outermoſt ſhip, or that immediately contiguous to the Arethuſa; but the innermoſt veſſel, the brig Iris from Oporto, had a crew of the uſual number. On the twenty-ninth day of July, five men of this crew were taken ill with fever, and attended by Dr. J. Stuart, who ſtates in his report to the College of Phyſicians, that the ſymptoms were ſimilar in all, tho' varying in the degree of violence; four of theſe recovered, but one died with unequivocal marks of the malignant yellow fever. A ſervant of George Latimer, Eſq. who lived about 100 yards to the north of this veſſel, and was frequently on the wharves, was attacked, July 30th, with a fever which was highly contagious and malignant, of which he died in a few days.

"Mr. N. Lewis, who kept a compting room which was about the ſame diſtance from the Arethuſa, was attacked about the ſame time, and died alſo in five days, of a fever which was ſuppoſed to be of the ſame nature.

"Mr.

" Mr. Dominick Joyce, who was much engaged on board a ſhip near the Arethuſa, was attacked, Auguſt 3d, with a fever of the ſame kind, but recovered. A man who lived in a ſtore on the ſouth ſide of Pine ſtreet, about 150 yards from the river, was attacked with a malignant fever about this time, and died in a few days.

" About the 6th of Auguſt, Mr. Ferguſon, whoſe yard adjoined the wharf where the Arethuſa and Iris lay, was attacked with a malignant fever, and the ſame day Mr. John Plankinghorn's girl, who lived nearly oppoſite to Mr. Ferguſon's acroſs Penn ſtreet, and worked in a yard which was ſituated very near to the above mentioned ſtore in Pine ſtreet, was alſo attacked with fever, they both died on the fifth or ſixth day after the attack, Mrs. Ferguſon with very ſuſpicious, and Mr. Plankinghorn's girl, with complete and unequivocal ſymptoms of the yellow fever. In this manner the diſeaſe continued to ſpread, ſo that by the middle of Auguſt, or within three weeks from the arrival of the Arethuſa, above ten perſons had died, who either lived or were engaged in buſineſs within 300 yards of the Arethuſa, and this at a time when the other parts of the city were ſo healthy, that it is probable all the other deaths which occurred in it were not equal in number to thoſe which oc-

curred in this ſmall diſtrict. After this the diſeaſe gradually extended itſelf to Southwark, and at the ſame time became thinly ſcattered through the city, where its deſtructive effects are but too well known.

December 26th, 1797.

Facts relative to the ſickly state of the ſhip HIND.

" It appears from the depoſitions of Francis Tow, Nicholas Benſon, and William Cooper, ſeamen on board the armed ſhip Hind, taken before chief juſtice M'Kean, that about the beginning of July 1797, the Hind ſailed from Port-au-Prince, bound to Philadelphia, with a cargo of ſugar and coffee, and with 43 paſſengers; of which number 23 were whites and twenty coloured perſons, that they touched at Cape Nichola Mole, where they remained eight days and diſcharged a part of their cargo, in lieu thereof taking in a quantity of ſtone ballaſt; during the time they lay at the Mole the paſſengers were occaſionally on ſhore. It would appear that they left the Mole between the 12th, and 15th, of July, and arrived at this port, after a paſſage of twenty or twenty-one days. About three or four days after their departure from the Mole, five or ſix white perſons and one negro of the paſſengers were attacked with fever, the white perſons ſo attacked

tacked were obſerved to become very yellow. During the paſſage four other coloured perſons and five of the crew fell ill of fever: one or two of the latter number, after the veſſel entered the capes of Delaware; but only a coloured boy and child died during the paſſage, and were thrown overboard after the veſſel entered the river. Upon the arrival of the veſſel oppoſite to the Marine Hoſpital, in conſequence of orders from the captain, four ſick perſons were ſecreted and did not come under the inſpection of the Phyſician of the Port; excluſive of theſe, two women were ſick in the cabin. After paſſing the Fort one of the ſeamen was taken ill, went on ſhore, and was afterwards carried to the Marine Hoſpital; and two other perſons were taken on ſhore ſick. So far go the depoſitions.

"From information obtained from the Health Office, it appears, that the Hind was examined at the Fort on the 2d, and arrived at Philadelphia on the 4th of Auguſt; and that Mr. Doughty, one of the Inſpectors of the Health Office, ſent to the Marine Hoſpital on the 13th of Auguſt, Peter Maloſio, one of the crew of the Hind then reſiding in Love Lane, and on the 14th a Portugueſe from near the junction of Penn and South ſtreets, who had been landed there; and that another perſon was ſick of a ſuſpicious fever at Mrs. O'Connor's,

in Almond near Front ſtreet. Both theſe were from on board the Hind, and the Portugueſe above-mentioned had been viſited by Dr. Currie, who declares his diſeaſe to have been yellow fever."

To theſe publications, the following reply was addreſſed to the Governor of the ſtate.

" *Letter from the* ACADEMY OF MEDICINE *to* THOMAS MIFFLIN, *Eſq. Governor of the State of Pennſylvania.*

SIR,

" THE Phyſicians, who anſwered your letter of the ſixth of November, reſpecting the origin and nature of the epidemic fever which lately prevailed in the city of Philadelphia, having, with others of their medical brethren, aſſociated themſelves under the name of " The Academy of Medicine of Philadelphia," beg leave, in that capacity, to addreſs you again upon the intereſting ſubject of the ſaid letter.

" The academy have ſeen, with regret, a memorial, from the college of phyſicians of the city, to the legiſlature, accompanied with a " narrative of facts" intended to eſtabliſh an opinion contrary to that, which

which the ſubſcribers of the anſwer to your letter, conceive they had therein proved in the moſt irrefragable manner.

" As the opinion appears to us replete with danger to the lives of our fellow citizens, and to the proſperity of our city, we deem ourſelves bound by the principles of humanity, and the obligations of patriotiſm, to make a few remarks upon it; and to ſhew that it is founded upon partial inveſtigations, and miſtaken ideas of the nature of the yellow fever.

" The college have aſcribed the origin of the late epidemic to the ſhips Arethuſa, captain Keith, from Havanna, and Hind, captain Patot, from Port-au-Prince. The memorial ſets forth that, " the ſhip " Arethuſa, capt. Keith, ſailed about the firſt of " June, from Port Royal in Jamaica, for the Ha- " vannah with ſlaves; during the paſſage two men " died with a fever, which Mr Stephen Kingſton, a " gentleman of this city who was a paſſenger on " board, and has frequently ſeen the diſeaſe, be- " lieves to have been the yellow fever, one having the " black vomit." Admitting the fact, which reſts merely upon the belief of a perſon not medically educated, yet the arguments hereafter to be adduced, it is preſumed, will deſtroy the probability of its being introduced by this ſhip. That the iſland of Jamaica

maica was healthy at the time the Arethuſa ſailed, appears from the anſwers given by the captain of the ſaid ſhip, to the official interrogatories filed in the Health-Office relative to this ſubject; and from thoſe of capt. Henry Latimer, of the brig Maria, who ſailed from the above port about the ſame day. That the diſeaſe of which the men died was not contagious is rendered probable by its not having ſpread among the paſſengers or crew who amounted to ſeventy, all of whom arrived in good health at the Havanna on the 21ſt of June. But ſuppoſing the diſeaſe to have been of a contagious nature, the precautions taken after the deaths, would have been ſufficient to have deſtroyed any remains of the contagion. From Mr. Brien's depoſition it appears, that "The "clothing, bedding and articles belonging to the "deceaſed were thrown overboard, and their births "cleanſed and well ſprinkled with vinegar." And we are authorized further to aſſert, that the ſhip underwent ſuch a complete cleanſing while at the Havanna, after landing the ſlaves, as prudence would dictate to a ſhip-maſter, in every ſimilar caſe. The ſhip, moreover, after lying at the Havanna fourteen days, during which time all on board remained well, arrived oppoſite the Health-Office on State Iſland, on the eighteenth of July. During the whole of this paſſage her hatches were conſtantly open, whereby the moſt ample means for a free current

rent of air were afforded, which could not fail to diſſipate any remains of contagion which could poſſibly have continued after her former purifications. The ſhip performed five days quarantine oppoſite the health-office, on State-Iſland, during which time the bedding was every day expoſed upon deck and was once waſhed by a rain. The crew moreover remained well, except the captain, who was affected with a rheumatiſm, and the mate, with a lax, both of whom ſoon recovered. The pilot who conducted this ſhip was attacked on the twenty-third of July, and allowing three days for the time he had been expoſed to the contagion before his fever appeared, there will remain forty-ſix days from the time the ſhip left Kingſton till her arrival in our river. From the known laws of the contagion of the yellow fever, and the diſtance of time at which it uſually appears, after perſons have been expoſed to the contagion, the academy conceive it ſcarcely poſſible, if any portion of contagion had been left by the before-mentioned perſons, that it would have remained inactive for above forty-ſix days, expoſed as the crew were to the exciting cauſes of fatigue, night watching and the viciſſitudes of the weather. The perfect freedom from diſeaſe which all on board enjoyed, muſt therefore be admitted as a proof that no contagion did exiſt, and conſequently that the pilot and others could not have derived their diſeaſe from that ſource.

The

" The college further ſtate that " the pilot was at-
" tacked with a fever, the day of his arrival with the
" ſhip at the city, and went on ſhore the ſame day,
" when he was viſited by Dr. Currie, who has been
" much converſant with the yellow fever, and who
" was ſo ſenſible of the reſemblance of his ſymptoms
" to thoſe of that diſeaſe, that he mentioned the caſe
" as ſuſpicious to one of his friends."

" In addition to the arguments, before adduced, for ſuppoſing that the pilot could not have taken his diſeaſe from any remains of contagion on board, the academy further remark, that the ſource from whence he derived his diſeaſe was probably, and as he believes, from a current of cold air during the night, while ſleeping in the open cabin of the ſhip, after a warm day, which preceded that on which the quarantine of the ſhip was ended. His indiſpoſition came on the next morning, and ſoon after his arrival in this city, a violent fever ſucceeded, of a kind, which we every year obſerve in Philadelphia, from ſudden changes of the weather, in the ſummer and autumnal months, and eſpecially from ſimilar expoſure on the river. It may be added, that he was but a few days confined, and that none of his friends who nurſed him, or others who daily viſited him were affected by him; neither were there any precautions taken to avoid contagion, nor the leaſt intimation of danger

ger given to thoſe who conſtantly attended him. Under all the circumſtances which have been mentioned, it is impoſſible to believe that the pilot's diſeaſe was derived from an imported contagion.

" The college in their memorial have inſinuated that the crew of the brig Iris were infected with the yellow fever by the crew of the Arethuſa paſſing acroſs her deck to the wharf. If this had been true or even poſſible, it muſt have been in one of the three following ways: 1ſt. By the actual ſickneſs of the crew; 2d. By the contagion blowing off their clothes in paſſing over the decks; or 3d. By the contagion, which had adhered to the timbers of the Arethuſa, being conveyed by the wind over two intermediate veſſels to the Iris.

" It is not pretended that any of the crew of the Arethuſa were indiſpoſed, therefore the firſt ſuppoſition muſt be rejected. They could not have infected the crew of the Iris in the ſecond mode, becauſe it is not alleged that they ſtopped a moment when paſſing over her deck. But admitting they did, it cannot be believed, that a diſeaſe could be conveyed by their clothes, to the crew of the Iris in the open air, when it is well known, that thoſe clothes when worn, and even waſhed in confined lodging houſes afterwards, did not infect a ſingle perſon, in any

any part of the city. Laſtly, it is highly improbable that the crew of the Iris could have been infected by the timbers of the Arethuſa, becauſe, we have no proofs that the contagion of the yellow fever ever adheres to wood; but admitting this to be poſſible, we reject the probability of it, becauſe, as we before obſerved, the ſhip had been well cleanſed and freely ventilated on her voyage from the Havannah to Philadelphia. We are the more diſpoſed to aſcribe the deſtruction of contagion, if any had exiſted, to the pure air of the ocean, from having ſo repeatedly obſerved the effects of country air in weakening or deſtroying it in the United States. The academy are moreover authoriſed by Dr. Stewart to aſſert, that none of the family, with whom the five men of the Iris boarded, were infected; but that they preſerved their health the whole time of the prevalence of our late epidemic.

" As the Iris lay at Pine ſtreet wharf, and entirely within the limits of the exhalations from the ſnow Navigation, to which we formerly referred, it is highly probable that they were infected thereby, and that the diſeaſe was excited by their intemperance in the uſe of Port wine, with which the brig was loaded, and by the practice of bathing themſelves in the river while under the influence of liquor, and heated by labour. From this conduct it

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is conceived by the Academy, the peculiar violence of their diſeaſes can be accounted for, as a ſimilar cauſe is always ranked among the moſt powerful, in the production of malignant caſes of bilious yellow fever; and Dr. Stewart authoriſes the Academy to aſſert his belief, that the fever, in the caſes he communicated to the college, proceeded from exhalation; and he thinks moſt probably, that of the ſnow Navigation. *

" Two of the other perſons mentioned by the college, *viz.* Mr. Lewis and Mr. Latimer's man, ſaid to have been infected by the Arethuſa, were much nearer the ſnow Navigation than the Iris was, and were expoſed to the exhalation from the former veſſel. With regard to Mr. Lewis, we ſhall obſerve that he was abſent from the city when the Arethuſa arrived, and did not return until ſix days afterwards, which was on the thirtieth of July. On the firſt of Auguſt, the day of his attack, it is known that he complained very much of the ſtench

* Though at an early period of our late epidemic, Dr. Stewart ſuſpected that the crew of the brig Iris were infected by an intercourſe with that of the ſhip Arethuſa, yet, a farther inveſtigation and aſcertainment of facts, have ſince ſatisfied him that this was not the caſe, but that they moſt probably, as above ſtated, derived their diſeaſe from foul air iſſuing from the hold of the ſnow Navigation.

ſtench of the ſnow Navigation, which had now pervaded the whole neighbourhood, and expreſſed great concern at her being permitted to remain at the wharf. The Academy are authoriſed, by Mr. Dominick Joyce, to expreſs his ſurpriſe at the aſſertion of his having taken his fever from the Arethuſa; for, though his buſineſs led him to the neighbourhood of that ſhip, yet he was ſtill within the ſphere of the extent of the foul air from the ſnow Navigation, and he acknowledges he was almoſt every day upon the wharf at which this veſſel lay, and from which he, in all probability, derived his diſeaſe.

" As all the other perſons whoſe caſes are mentioned by the college, lived within the extent of the exhalation from the ſnow Navigation, there can be little doubt, but that they derived it from the ſame air which affected the perſons, whoſe names they have mentioned. It is remarkable, that the diſeaſe was in no inſtance propagated from any of them.

" The academy have good reaſon to believe, that the perſons who were indiſpoſed on board the armed ſhip Hind, after her arrival, derived their diſeaſes from the noxious air of the ſnow Navigation, in common with the perſons who were affected on board the Iris, and in the neighbourhood of Mr. Latimer's

Latimer's wharf. It appears that none of them propagated the diſeaſe to any of their attendants in the city, or in the hoſpital at State Iſland, to which place ſome of them were ſent. It is well known, moreover, that many citizens repeatedly viſited and ſpent whole days on board this veſſel, none of whom were indiſpoſed in conſequence of it.

"From the depoſitions of the ſupercargo and of the pilot of the Hind, it will likewiſe appear, that the whole of the teſtimony of the three boys is diſproved, except as to ſome unimportant particulars.*

"We are unable to give credit to the traditional rumours of the foreign origin of the yellow fever, in any part of the United States, inaſmuch as from the inaccuracy of the few records which have been preſerved, of the places from whence it was ſaid to be derived, and of the manner in which it was ſaid to have been introduced into our country, we have reaſon to conclude they were aſſumed without ſufficient inveſtigation. Had the proper ſteps been taken at all times to inveſtigate its origin, it is probable it would have been diſcovered, in moſt caſes, to have been the offspring of domeſtic putrefaction. We cannot cloſe the arguments againſt the

* See Appendix, (B.)

the importation of the yellow fever, without remarking, that many recent facts and obſervations render it probable, that the reports of its contagious nature have been exaggerated, and that it is not ſo often propagated by contagion as has been ſuppoſed, more eſpecially in warm weather, when ſick rooms are open night and day, to the conſtant acceſſion of freſh air.

" We obſerve in the memorial of the college of phyſicians an aſſertion, that the yellow fever " Is " eſſentially different from the fevers that occur in " this climate, and which originate from domeſtic " cauſes :" but as no proofs are adduced in favour of that aſſertion, we ſhall reſt our opinion of the original ſameneſs of both thoſe ſtates of fever, upon the facts and arguments which were ſtated in our former communication. We ſhall only obſerve, that the idea maintained by the college, has been exploded by ſome of the moſt diſtinguiſhed writers upon tropical diſeaſes ; and by moſt of the American phyſicians of the ſouthern ſtates, who conſtantly conſider and treat both the common bilious fever, and its higher grade, called yellow fever, as the ſame diſeaſe, varying only in violence.

" The academy obſerve alſo, with ſurpriſe, another aſſertion made by the college, that " The diſeaſe " in

" in queſtion, invariably commences in our ſea-
" ports, while inland towns, equally expoſed to the
" ordinary cauſes of fever, eſcape." To this we reply, it is well known, that in various parts of the United States, remote from ſea-ports, preciſely the ſame diſeaſe, with all its characteriſtic ſymptoms, has frequently prevailed.

" The college in their narrative have taken no notice of the origin of the yellow fever in Kenſington, nor at and near Red-Bank upon the eaſtern ſhore of the Delaware. Its origin in the former of thoſe places from the noxious air emitted from the putrid coffee of the ſhip Huldah, and in the latter from marſh exhalation, we conceive to be fully eſtabliſhed by the documents communicated in our appendix.* The college have alſo obſerved a total ſilence in their report reſpecting thoſe caſes of yellow fever, which appeared in our city, before the arrival of the Arethuſa, Hind, or Navigation. Theſe caſes were evidently derived from ſome of the numerous ſources of exhalation, from putrid ſubſtances in and about the city. They were attended by Doctors Ruſh, Phyſick, Caldwell, and Paſcalis.

" We

* See Appendix (C.)

"We cannot take leave of this important ſubject without expreſſing our earneſt deſire for its candid and cloſe examination, by the legiſlature of the ſtate.

"Facts and arguments ſimilar to thoſe we have urged, have produced a conviction of the domeſtic origin of the yellow fever, in Boſton, New York, Baltimore, Norfolk and Charleſton, and many of the other towns of the United States. This conviction has been followed by meaſures, in New York, which promiſe in future years an exemption from the diſorder.

"With ardent wiſhes for the prevalence of truth, upon this important ſubject, in the capital of the United States, we have the honor to add our moſt reſpectful wiſhes, for your health and happineſs.

"*Signed by order of*
The Academy of Medicine of Philadelphia.

"*March* 20, 1798.

PHILIP SYNG PHYSICK, *Preſident.*
FRANCIS BOWES SAYRE, *Secretary.*"

"*To* THOMAS MIFFLIN, *Eſqr.*
Governor of Pennſylvania."

APPENDIX.

" Appendix.

(A)

" IN ſeveral intereſting particulars, reſpecting the origin of the epidemic of 1797, miſrepreſentations of facts have much deceived the public mind. Theſe miſrepreſentations, we believe to have been entirely the reſult of an eaſy credulity, diſpoſed to reſt ſatisfied with popular report, and not of any ſettled intention to miſlead. They have been moſt ſtriking and fallacious in the accounts propagated, reſpecting the origin of the diſeaſe in Kenſington, and at Red-Bank, on the Jerſey ſhore of the river Delaware. * To be able the more effectually to counteract the pernicious influence of ſuch miſtatements, the academy of medicine have found it neceſſary, to ſet on foot particular inveſtigations. The reſult of theſe, they now beg permiſſion to ſubmit, in the form of a few documents, to the candid conſideration of the public.

* On the ſubject of the true ſource of the epidemic, in theſe two ſituations, the public are by no means at preſent in poſſeſſion of accurate information.

" It is known to have been very generally reported, and almoſt as generally believed, that the late epidemic was introduced into Kenſington by Mr. John Bruſter, who was ſaid to have received the infection by going on board the armed ſhip Hind, from Port-au-Prince. It is true, that Mr. Bruſter was, at leaſt, among the firſt (if not, indeed, himſelf the very firſt) who was attacked by this diſeaſe in Kenſington, in the ſummer of 1797; but that he could not poſſibly have derived his illneſs from any intercourſe with the ſhip Hind, is a truth unequivocally eſtabliſhed by the following documents, particularly by the affidavit of Michael Lynn.

" DOCUMENT.

" *Proofs of the diſeaſe, occurring from exhalation in Kenſington; from marſhy grounds; and from the hold of a ſhip, by Dr. Coxe.*

" From the books kept at the Merchants' Coffee-houſe, it appears that the Britiſh armed ſhip, Hind, Francis Patot commander, from Port-au-Prince, was ſeen below the Fort on the 2d of Auguſt; and at ten o'clock of the ſame day ſhe came within ſight; and lay off the Fort for examination.

" The

"The uſual queſtions were this day (2d of Aug.) propoſed, by the health-officer, to the commander, as appears by the paper preſerved on the files at the health-office in this city. She came up to the city on the 3d; and entered at the health-office on the 4th of the month.

"As no mention is made, previouſly, of her being ſeen in the river; the probability is that ſhe had a ſpeedy paſſage up the Delaware.

"The perſon who firſt had the yellow fever in Kenſington, was a young man of the name of John Bruſter. He is ſaid to have taken the diſeaſe by having been on board the Hind; and through him, the fever was ſaid to have been introduced into Kenſington. Upon an examination into dates, this is altogether impoſſible: Bruſter died on the 2d of Auguſt, after an illneſs of four days and four hours, according to his father's account, which brings the commencement of his attack to the 29th July, or four days *previouſly* to the arrival of the Hind at the Fort. Excluſively of this fact, I have added the affidavit of Michael Lynn, to prove that he did not go on board of any veſſel in a voyage down the river to Reedy Iſland. Some other ſource for his diſeaſe muſt then be looked for; and this I derive from the marſhy exhalations (ariſing from the

low grounds and meadows on one or both ſides of the river) to which he was expoſed in his paſſage in a ſmall ſchooner, to and from Reedy Iſland in the middle and cloſe of July, aided by imprudent expoſure, by ſleeping upon the wet deck of the veſſel.

" Wm. Reed, who died on the 5th of Auguſt, after ſeven days illneſs, appears in all probability to have derived his diſeaſe from ſome of the *local* ſources which are numerous in and about Kenſington; although if common report had been credited, we ſhould have aſcribed it to the picking up of a caſk which was ſaid to have been thrown from the Hind. As, however, he died on the 5th, after ſeven days illneſs; the ſtory is altogether impoſſible, as it brings the commencement of the diſeaſe to the 29th of July, or four days preceding the arrival of the Hind. The ſame ſources, which in Kenſington, commonly produce in the autumnal months, remittents and intermittents, have this ſeaſon by the peculiar conſtitution of the atmoſphere, (whatever that may be owing to) raiſed thoſe diſeaſes to the more violent grade of yellow fever.

" To theſe *local* ſources I would alſo without heſitation aſcribe many of thoſe caſes which occurred in

in Kenſington, and which were all aſſerted to be traced to contagion.

" In that range of houſes, extending northward from the bridge over Kohockſing creek, and to the weſt of the main York road, not leſs than ſix or ſeven people died of the yellow fever. Theſe houſes, it will be recollected, are bounded on the weſt by that large portion of low marſhy ground to the northward of the bridge; and from this abundant ſource of exhalation, I think it moſt rational to deduce the ſeeds of the fever which occurred there. And this is rendered much more probable by the collateral evidence, of the ſame fever having exiſted in the families of Mr. Boudinot and Mr. Leaming, near the Frankfort road, where low and marſhy grounds afford ample origin to thoſe noxious miaſmata which produce intermitting and remitting fevers. The ſtraggling manner alſo, in which the diſeaſe occurred in Kenſington, renders it more probable that it originated from *local* ſources, than that it was introduced and ſpread through the medium of contagion.

" The next perſons who were attacked in Kenſington, were in the family of Mr. Joſeph Bowers. Theſe appear to have received the diſeaſe from the noxious miaſmata originating in the hold of a ſhip called

called the Huldah, which went up to Kenſington to clear out at Mr. Bowers' wharf, after diſcharging her cargo in this city. The following is the ſtatement which I have procured reſpecting this ſhip, chiefly from the houſe of Summerl and Brown, to whom ſhe was conſigned.

"The ſhip Huldah, captain William Warner, ſailed from this port for Hamburgh, on the 18th of October, 1796, laden with coffee, ſugar, and furs. After landing her cargo, ſhe does not appear to have cleared out her ballaſt, &c. but ſailed from Hamburg for this place on the 11th of April, 1797, laden with hemp, iron, cordage, dry goods, glaſs, and brandy. She arrived at New York on or about the 1ſt day of July, where ſhe diſcharged 109 pipes of brandy. On the 13th, ſhe ſailed for Philadelphia, and entered at the health-office on the 17th of the month, having 13 ſeamen on board in perfect health, which had been the caſe during the whole voyage of upwards of ninety days. She diſcharged her cargo at Vannuxem's wharf, between Arch and Race ſtreets, and on Sunday the 13th of Auguſt, ſhe was carried to Mr. Bowers' wharf at Kenſington, by the mate and one of the ſailors, (Joſeph Way of Wilmington, nephew to the late Dr. Nicholas Way, of this city) aſſiſted by Nicholas Painter of Kenſington. They proceed-

ed

ed to clear her out the following day, Auguſt 14th. After getting through a quantity of ſand, which lay above the ballaſt, ſo nauſeous and offenſive a ſmell proceeded from her, that the mate was indiſpoſed for ſeveral days. Joſeph Way was obliged to lay by; and after drooping ſome days, he went down to Wilmington, and there died, with a ſevere attack of the yellow fever, on the ſame day with his uncle, in this city, *viz.* on the 2d of September.

" Nicholas Painter and Chriſtopher Ruſh, who aſſiſted in cleaning her out, ſtood the effects of this exhalation till Wedneſday, 16th of Auguſt; when they were ſeized with violent head-ach, eſpecially *above* the eyes; ſickneſs and vomiting, and pain of the back; accompanied by fever. Ruſh ſays, he has never completely regained his health ſince that period. He further ſays, that the ſmell of the hold of the Huldah was ſo nauſeous, that he could not get it out of his noſe for ſeveral days.

" Upon inveſtigation it appeared, that the ſmell proceeded from a quantity of coffee, (which muſt have eſcaped during the voyage to Hamburgh) mixed with the bilge water and ſand, and which was in the higheſt ſtate of vegetable putrefaction; being

being very black, and containing worms or maggots nearly two inches in length.

" Mr. Joſeph Bowers' boy was the firſt of his family who was attacked. He worked in a ſchooner which lay along-ſide of the Huldah, and was ſeized on Tueſday, the 15th of Auguſt, and died on the 22d. Mr. Bowers himſelf ſeems to have received the ſeeds of the diſeaſe on Tueſday, the 15th, at which time he was on board the Huldah, and noticed the very offenſive ſmell proceeding from her hold. He ſickened on the Sunday following, the 20th of Auguſt, and died on the 25th. A maid-ſervant and two children alſo had the diſeaſe; one of the children died. It is poſſible that theſe laſt, took the diſeaſe by contagion from Mr. Bowers or his boy; though I think it more probable, that they derived it from the original ſource, *viz.* the ſhip's hold; as the wharf is not very diſtant from the houſe, and as yet we know not the exact limits to which theſe noxious miaſmata may be carried, without loſing their baneful influence by dilution with the atmoſphere.

Many caſes which occurred in Kenſington after this period, were, moſt probably, derived from this ſource. The accounts of them are altogether wrapt in doubt and ſuppoſition. Moſt of them are ſaid to have

have taken it by contagion from others; but this is rendered highly improbable by the very moderate degree in which this fever has evinced itſelf to be poſſeſſed of a contagious power; and more eſpecially in ſo airy and extended a village as that of Kenſington.

" It would appear then, from the preceding pages, that the diſeaſe as it exiſted in Kenſington, had *three* different ſources, *viz.*

" First; By *exhalation* or *marſh-effluvia*, derived from the low grounds on the banks of the Delaware; as was the caſe with *Bruster*.

" Secondly; From *exhalation* or marſh-effluvia, derived from the local ſources of low grounds in, and about Kenſington; as evinced in thoſe caſes which occurred in the range of buildings, to the weſtward of the York road: and,

" Thirdly; From the *exhalation* or *noxious effluvia*, proceeding from putrefying vegetable matter, in the hold of the ſhip Huldah; as in the caſes of Mr. Bowers and his family, and perhaps in others.

" The

" The diſeaſe, poſſibly, in ſome few caſes ſpread by contagion. King, a coffin-maker, who aſſiſted in putting the dead into their coffins, may have derived his diſeaſe, of which he died, from this ſource. It is however problematical; for he was with others, expoſed to thoſe cauſes which produced it in them.

JOHN REDMAN COXE."

" *Philadelphia, December* 1, 1797."

AFFIDAVIT of Chriſtopher Ruſh.

" *County of Philadelphia, ſſ.*

" Perſonally appeared before me, Peter Brown, one of the Juſtices of the Peace, in, and for the county aforeſaid, Chriſtopher Ruſh; and being duly ſworn upon the holy evangeliſts, did depoſe, and ſwear, that, in working on board the ſhip, Huldah, at Joſeph Bowers' wharf, on the 14th of Auguſt laſt, he perceived a moſt offenſive ſmell on board the ſaid ſhip, ariſing from ſome putrefied coffee in the hold of the ſhip. That he, the ſaid Chriſtopher Ruſh, was made ſick for ſeveral days from

from the ſaid ſmell, as alſo were Nicholas Painter and Joſeph Way, who worked with ſaid Chriſtopher Ruſh on board the ſhip Huldah. He depoſeth further, that Joſeph Bowers and his man were expoſed to the ſaid ſmell, from working and attending on board the ſaid ſhip; and further this deponent ſayeth not.

his

" CHRISTOPHER *C. R.* RUSH,

mark.

" Taken and ſubſcribed before me, this 30th day of November, 1797.

" Signed,

" (Seal) PETER BROWN."

A true copy, J. R. Coxe.

AFFIDAVIT of Michael Lynn.

" *County of Philadelphia, ſſ.*

" Perſonally appeared before me the ſubſcriber, one of the Juſtices of the Peace, in, and for the county aforeſaid, Michael Lynn; who being duly ſworn upon the holy evangeliſts, doth depoſe and ſay, that on the 17th day of July laſt, he accompanied John Bruſter from Kenſington, at which place the

the deponent reſides, down the river Delaware, in a ſmall ſchooner, and returned home on the 23d day of July, making an abſence of ſix days; during which time, neither the deponent nor the ſaid John Bruſter was on board of, or along ſide of, any ſhip or veſſel whatſoever; and that on the Sunday following, which was exactly one week after their return, John Bruſter was taken ſick, and died the Thurſday following.

" Signed MICHAEL LYNN.

" Taken and ſubſcribed before me, this 30th day of November, 1797,

" Signed,

" (Seal) PETER BROWN."

A true copy, J. R. Coxe.

" Copied from the original documents, in the poſſeſſion of the ſecretary of the ſtate of Pennſylvania.

J. R. C.

(B)

" The academy of Medicine cannot do otherwiſe than expreſs their ſurpriſe, that the College of phyſicians, in their reſearches after the origin of our late epidemic, ſhould have thought it neceſſary to make the armed ſhip Hind an object of attention. It is a truth well known, that the fever had prevailed in our city ſeveral days previouſly to the arrival of that veſſel;

veſſel; and it is, in like manner, a truth which ought to be known, that none of thoſe perſons ſuppoſed to have been infected by an intercourſe with her, communicated their diſeaſe to any of their viſittants or attendants. Where then, the academy would beg leave to aſk, is even the fainteſt evidence, of the ſhip Hind having been at all inſtrumental, in the introduction of this diſeaſe? There certainly exiſts none. Nor, in a candid inveſtigation of the ſubject, does there appear to be ground ſufficient to authoriſe, even the mention of the name of this veſſel.

"As the college of phyſicians appear, however, by their late pamphlet, to have directed to the Hind, an undue ſhare of public attention, it has become neceſſary to make their narrative reſpecting her, a ſubject of particular conſideration. The only evidence of which that learned body are poſſeſſed, reſpecting the ſickly ſtate of this veſſel, is derived from the affidavits of three common mariners belonging to her crew; two of whom were nothing more than boys. In oppoſition to the evidence delivered in theſe affidavits, we would here beg leave to ſubmit to the public, the affidavit of the ſupercargo of the Hind. The report, delivered in his depoſition, is farther corroborated by the joint teſtimony of three other reſpectable characters, on board the ſame veſſel.

From

From this document, it will at once appear, on how equivocal a foundation, the college have thought proper to reſt this part of their inveſtigation, reſpecting the origin of the diſeaſe in queſtion.

" AFFIDAVIT of the Supercargo of the Hind.

" Perſonally, before me, Hilary Baker, Mayor of the city of Philadelphia, came Thomas Badaraque; who being duly ſworn, doth depoſe and ſay, that he was ſupercargo of the ſhip Hind, captain Patot, from Port-au-Prince to Philadelphia, in the ſummer of 1797. That they touched at Cape Nichola Mole, and five days after, a child, about ſix months old, died from teething: that a negro boy, of about nine years of age, died of the ſcurvy, the day before the pilot came on board. That no other perſons were ſick during the voyage, except Mr. Campan a paſſenger, who had been indiſpoſed, before he came on board, with a lax, and other chronic complaints. That no orders were given to conceal any body, upon the arrival of the ſhip, by the captain, from the phyſician at the fort.

T. BADARAQUE.

Sworn, the 15th day of March, 1798, before me,
HILARY BAKER, Mayor.

" The

" The under-ſigned, paſſengers on board the ſhip Hind, at the time alluded to, having been duly ſworn, do depoſe and ſay, that the facts above related, by Thomas Badaraque, are juſt and true.

MATHIEU DUPOTEE.
PIER VIDAU.
PONIMIER.

Sworn, the 15th day of March, 1798, before me,
HILARY BAKER, Mayor.

(C)

" By ſome, the yellow fever, which prevailed at or near Red-bank, is ſuppoſed to have originated from an imprudent communication with the ſhipping in the river, while others alledge, that it was derived from an intercourſe with the city of Philadelphia. That both theſe allegations, however, are equally unfounded, is a truth, which the Academy of Medicine conceive to be ſatisfactorily eſtabliſhed by the following

" DOCUMENT, by Dr. Otto.

" I do hereby certify, that I viſited the farms at and in the vicinity of Red-bank, ſituated on the eaſtern

eaſtern ſhore of the Delaware, for the purpoſe of inveſtigating the origin of the yellow fever, that raged ſo violently amongſt them, during the late autumn. I ſought every poſſible information from the attending phyſician, the families who had been attacked, and from their neighbours. Knowing that a diſeaſe of this kind might have been derived from domeſtic ſources, from the city of Philadelphia, and, poſſibly, from the ſhipping performing quarantine, I was exceedingly particular upon theſe points of inquiry and inveſtigation. After examining the documents upon this ſubject, I do not heſitate to pronounce it the offspring of local cauſes.

" The moſt valuable part of theſe farms conſiſts in meadows, which had been overflowed, for ten or twelve days, by a deluge of rain that commenced on the firſt of Auguſt. The waters gradually diſappeared, and depoſited a ſcum that was exceedingly nauſeous. The roots of the graſs were dead in many places for an acre or more in extent; even ſix inches below the ſurface of the earth, they were deſtroyed—the vegetable putrefaction was great, and the ſmell ariſing from it extremely diſagreeable. To this ſource I attribute the diſeaſe that prevailed amongſt them. Twenty-nine perſons were attacked in five families; but ſo local was the calamity, that, although the neighbours kept up a conſtant communication,

cation, by viſiting the ſick rooms, and rendering their ſervices, no perſon, that theſe families recollect, was affected with it, in conſequence. And there is but one poſſible caſe in which it could have been communicated, by any one of theſe families to any of the others.

My opinion of the local origin of the yellow fever, derives ſupport from its being the idea of the phyſician who attended the ſick, and the univerſal ſentiment of thoſe who have ſuffered by it. Documents, entering into detail, to eſtabliſh theſe, and a variety of other points connected with the diſeaſe, are ſubſcribed by all the perſons alluded to, and depoſited among the records of the Academy of Medicine.

Signed, JOHN C. OTTO.

March 23d, 1798.

There is one aſſertion by the college of phyſicians, which has eſcaped refutation by the academy of medicine. It is ſaid in the memorial of the college, that the yellow fever "exiſts in the Weſt Indies "particularly in the time of war, when great num- "bers of ſtrangers are to be found there, and refer- "ence to dates will ſhew that in moſt of the inſtan-

" ces of the occurrence of the diſeaſe in the United " States, there has been war in the Weſt Indies."

It appears that the diſeaſe was unknown in the United States during the laſt war in the Weſt Indies, and that it prevailed but once in America during the war before the laſt, and that was in Philadelphia in 1762. It ought to be remembered in this place, that the intercourſe between the Weſt India Iſlands and the United States at that time, was of ſuch a nature, as to favour the importation of the fever, much more than it has been ſince, for American troops who had ſerved with the Britiſh army in the Weſt Indies arrived occaſionally with the remains of the yellow fever upon them, and yet in no inſtance was the diſeaſe imported by them. The fever in Philadelphia in 1762 was generated by putrid exhalations from the dock near the draw-bridge. I infer this from its prevailing chiefly in that neighbourhood, and from its being rarely contagious when carried into any other part of the city.—It was believed, it is true, at the time, to have been imported. The reader muſt not be ſurpriſed at this traditional error having been adopted by the citizens of Philadelphia without examination, when he recollects that the college of phyſicians of Philadelphia have twice adopted it after a formal inveſtigation of the origin of the

the diſeaſe, without the leaſt evidence from facts, or principles in ſupport of their opinion.

It is to be lamented that the legiſlature of the ſtate took no notice of the proofs of the domeſtic origin of the yellow fever which were laid before them by the academy of medicine. A law was paſſed to prevent the importation of the diſeaſe. It has ſince been enforced with a rigor which has been expenſive and diſtreſſing to the commerce of the city. I wiſh it may not be the means of generating the diſeaſe, by obliging ſhips to remain ten days at State Iſland in the hot months, with vegetable cargoes putrefying in their holds; or if this ſhould not be the caſe, I hope the law will not compel the owners of veſſels who have been exhauſted by the expenſes, or ſea captains who have been worn down by the fatigue of tedious voyages, to ſeek a more open port in ſome of the rival cities of the United States, where juſt opinions prevail reſpecting the uſual origin of the yellow fever. A belief in the importation of the epidemics of 1793 and 1797 is diſgraceful to the ſcience of medicine; and unleſs man ſhould become retrograde in the uſe of his reaſoning faculties, the records and laws which are intended to eſtabliſh this belief, will probably be preſerved with the laws againſt witchcraft, as curious monuments of the

weakneſs of the human underſtanding, at the cloſe of the 18th century.

I have taken pains to collect an account of all the vegetable and animal matters which, in a ſtate of putrefaction, produce bilious, remitting and malignant fevers. The following is a liſt of ſuch of them as I have met with in books, or picked up from converſation, and obſervation.

1. Matters which compoſe marſh exhalations, and which are ſuppoſed to be partly of a vegetable, and partly of animal nature. They are derived from the ſhores of rivers, creeks and mill-ponds, as well as from low and wet grounds.

2. Cabbage.

3. Potatoes.

4. Pepper.

5. Indian meal.

6. Onions.

7. Mint.

8. Anniſeed

8. Anniſeed and caraway ſeed confined in the hold of a ſhip.

9. Coffee.—" About the time," ſays Dr. Trotter, " when notice was taken of the putrefying coffee on the wharf at Philadelphia, in the year 1793, a captain of a man of war juſt returned from the Jamaica ſtation, informed me, that ſeveral veſſels laden with the ſame produce came to Kingſton from St. Domingo. During the diſtracted ſtate of that colony, this article, with other productions, had been allowed to ſpoil and ferment. The evolution of a great quantity of fixed air, or carbonic acid gas, was the conſequence; and in theſe veſſels, when opening the hatchways, ſuch was its concentrated ſtate, that the whole of the crew in ſome of them, were found dead on the deck. A pilot boarded one of them in this condition, and had nearly periſhed himſelf."*

10. Cotton, that had been wetted on board of a veſſel that arrived in New York a few years ago from Savannah in Georgia.

11. Hemp, flax, and ſtraw.

12. The

* Medicina Nautica, p. 324.

12. The canvaſs of an old tent.

13. Old books and old paper money that had been wetted, and confined in cloſe rooms and cloſets.

14. The timber of an old houſe. A fever produced by this cauſe is mentioned by Dr. Haller in his Bibliotheca Medicinæ.

15. Green wood confined in a cloſe cellar during the ſummer months. A fever from this cauſe was once produced in this city in a family that was attended by the late Dr. Cadwallider.

16. The green timber of a new ſhip. Captain Thomas Bell informed me, that in a voyage to the Eaſt Indies in the year 1784, he loſt ſix of his men with the ſcurvy, which he ſuppoſed to be derived wholly from the foul air emitted by the green timber of his ſhip. The hammocks which were near the ſides of the ſhip rotted during the voyage, while thoſe which were ſuſpended in the middle of the ſhip retained their ſound and natural ſtate. This ſcurvy has been lately proved by Dr. Claiborne in an ingenious inaugural diſſertation publiſhed on the 22d of May of the preſent year, to be a miſplaced ſtate of malignant fever. Dr. Lind mentions likewiſe the

timber

timber of new ſhips as one of the ſources of febrile diſeaſes.

17. The ſtagnating air of the hold of a ſhip.

18. Bilge water.

19. The ſtagnating air of cloſe cellars. To prevent this ſource of fever, chimneys ſhould always be made in them.

20. The matters which uſually ſtagnate in the gutters, common ſewers, docks, and alleys of cities, and in the ſinks of kitchens.

21. Air emitted by agitating foul, and ſtagnating water. Dr. Franklin once derived an intermitting fever from this cauſe.

22. A duck-pond, and

23. A hog-ſtye have been known to produce violent bilious fevers in Philadelphia.

Fevers are ſeldom produced by decayed or putrid animal matters. There are, however, records of their having been generated by the following ſubſtances in a ſtate of putrefaction.

1. Human

1. Human bodies that have been left unburied upon a field of battle.

2. A whale thrown upon the ſeaſhore in Holland.

3. Locuſts.

4. Raw hides confined in ſtores and in the holds of ſhips, and

5. The entrails of fiſh expoſed to the heat of the ſun.

The following fact communicated to me by Mr. Samuel Lyman, a member of Congreſs from the ſtate of Maſſachuſetts, ſhews the importance of attending to the condition of butchers meat in our attempts to prevent malignant fevers.

A farmer in New Hampſhire who had overheated a fat ox by exceſſive labour in the time of harveſt, perceiving him to be indiſpoſed, inſtantly killed him, and ſent his fleſh to a neighbouring market. Of 24 perſons who ate of this fleſh, 15 died in a few days. The fatal diſeaſe produced by this aliment, fell, with its chief force, upon the ſtomach and bowels.

The

The gentlemen who ſubſcribed the firſt letter to the governor of Pennſylvania, have remarked, that an offenſive ſmell is not eſſential to the nature of thoſe gaſes which produce fevers. It is poſſible this ſmell, by exciting a morbid action in the noſe, may prevent their being felt in more vital parts of the body. It would ſeem further, as if heaven had kindly connected a diſagreeable ſmell with putrefying vegetable and animal matters, on purpoſe to prompt us to remove or avoid them.

From a review of the numerous and common cauſes of fever which have been mentioned, we are led again to lament that they have been ſo long overlooked and neglected by the citizens of Philadelphia. We behold here a melancholy inſtance of the force of prejudice, prevailing, not only over reaſon, but over the evidence of the ſenſes themſelves. While the inhabitants of our city are looking with terror to the ſhips which arrive from the Weſt Indies in the ſummer months, and ſhunning even the refreſhing breezes which fill their ſails at the diſtance of five or ſix miles, it appears that the true cauſe of all their peſtilential calamities, like the ſin of Cain, "lieth at their door."

I proceed now to ſay a few words upon the treatment which was uſed in this fever. It was in general

neral the ſame as that which was purſued in the fevers of 1793 and 1794.

I began the CURE, in moſt caſes, by BLEEDING, where I was called on the firſt day of the diſeaſe, and was happy in obſerving its uſual ſalutary effects in its early ſtage. On the ſecond day, it frequently failed of doing ſervice, and on the ſubſequent days of the fever, I believe it often did harm; more eſpecially if no other depleting remedy had preceded it. The violent action of the blood-veſſels in this diſeaſe, when left to itſelf for two or three days, fills and ſuffocates the viſcera with ſuch an immenſe maſs of blood, as to leave a quantity in the veſſels ſo ſmall, as barely to keep up the actions of life. By abſtracting but a few ounces of this circulating blood, we precipitate death. In thoſe caſes where a doubt is entertained of ſuch an engorgement of ſtagnating blood having taken place, it will always be ſafeſt to take but three or four ounces at a time, and to repeat it four or five times a-day. By this mode of bleeding we give the viſcera an opportunity of emptying their ſuperfluous blood into the veſſels, and thereby prevent their collapſing from the ſudden abſtraction of the ſtimulus which remained in them. I confine this obſervation upon bleeding, after the firſt ſtage of the diſeaſe, only to the epidemic of 1797. It was frequently

quently effectual when uſed for the firſt time after the firſt and ſecond days in the fevers of 1793 and 1794, and it is often uſeful in the advanced ſtage of the common bilious fever. The different and contradictory accounts of the effects of bleeding in the yellow fever in the Weſt Indies, probably originate in its being uſed in different ſtages of the diſeaſe. Dr. Jackſon, of the Britiſh army, in his late viſit to Philadelphia, informed me, that he had cured 19 out of 20 of all the ſoldiers whom he attended, by copious bleeding, provided it was performed within ſix hours after the attack of the fever. Beyond that period, it mitigated its force, but ſeldom cured. The quantity of blood drawn by the Doctor, in this early ſtage of the diſeaſe, was always from 20 to 30 ounces. I have ſaid the yellow fever of 1797 was more malignant than the fevers of 1793 and 1794. Its reſemblance to the yellow fever in the Weſt Indies, in not yielding to bleeding after the firſt day, is a proof of this aſſertion.

I was ſtruck during my attendance upon this fever in obſerving the analogy between its MIXED form and the malignant ſtate of the ſmall pox. The fever in both, continues for three or four days without any remiſſion. They both have a ſecond ſtage in which death uſually takes place if the diſeaſes be left

left to themſelves. By means of copious bleeding in their firſt, they are generally deprived of their malignity and mortality in their ſecond ſtage. This remark ſo trite in the ſmall pox, has been leſs attended to in the yellow fever. The bleeding in the firſt ſtage of this diſeaſe does not it is true deſtroy it altogether, any more that it deſtroys an eruption in the ſecond ſtage of the ſmall pox, but it weakens it in ſuch a manner, that the patient paſſes through its ſecond ſtage without pain or danger, and with no other aid from medicine than what is commonly derived from good nurſing, proper aliment, and a little gently opening phyſic.

It is common with thoſe practitioners who object to bleeding in the yellow fever, to admit it occaſionally in *robust* habits. This rule leads to great error in practice. From the weak action of prediſpoſing, or exciting cauſes, the diſeaſe often exiſts in a feeble ſtate in ſuch habits, while from the protracted, or violent operation of the ſame cauſes, it appears in great force in perſons of delicate conſtitutions. A phyſician therefore in preſcribing for a patient in this fever, ſhould forget the natural ſtrength of his muſcles, and accommodate the loſs of blood wholly to the morbid ſtrength of his diſeaſe.

In

In a former work* I hinted at thoſe ſtates of this fever in which bleeding is proper. Dr. Jackſon has confirmed me, by his inſtructing communications upon this ſubject, in all the remarks which I have publiſhed, and has added to them a caution which deſerves the attention of practitioners, and that is, to avoid bleeding in the cloſe of a paroxyſm of the fever. The debility which accompanies the intermiſſion of the fever is often ſo much increaſed by this evacuation, as to endanger life.

The quantity of blood drawn in this fever was always proportioned to its violence. I cured many by a ſingle bleeding.—A few required the loſs of upwards of an hundred ounces of blood to cure them. The perſons from whom that large quantity of blood was taken were Meſſieurs Andrew Brown, Horace Hall, George Cummins, J. Ramſay and George Eyre. But I was not ſingular in the liberal and frequent uſe of the lancet. The following phyſicians drew the quantities of blood annexed to their reſpective names from the following perſons, viz.

Dr. Dewees	176 ounces	from Dr. Phyſick,
Dr. Griffitts	110	from Mr. S. Thomſon,
Dr. Stewart	106	from Mrs. M'Phail,

Dr.

*Medical Inquiries and Obſervations, vol. iv.

Dr. Cooper	150	from Mr. David Evans,
Dr. Gilleſpie	103	from himſelf.

All the above named perſons had a rapid and eaſy recovery, and now enjoy good health. I loſt but one patient who had been the ſubject of early and copious bleeding. His death was evidently induced by a ſupper of beef-ſtakes and porter after he had exhibited the moſt promiſing ſigns of convaleſcence.

I am aware how much I ſhall detract for the preſent from the reputation of thoſe phyſicians whoſe names are connected with the records of the above facts. But I know them too well to ſuppoſe they wiſh to accommodate to the prejudices of the day, by concealing their modes of practice. Fear and error will not always maintain their ground upon this ſubject. The objections to copious bleeding in malignant fevers, will ſooner or later ſleep with the prejudices againſt bark and opium. Ample juſtice will then be done to thoſe men who have ſubmitted to a temporary ſacrifice of intereſt and reputation, in order to ſave the lives of their fellow creatures.

Of PURGING.

From the great difficulty that was found in diſcharging bile from the bowels by the common modes of

of adminiſtering purges, Dr. Griffitts ſuggeſted to me the propriety of giving large doſes of calomel without jalap, or any other purging medicine, in order to looſen the bile from its cloſe connection with the gall-bladder and duodenum during the firſt day of the diſeaſe. This method of diſcharging acrid bile was found uſeful. I obſerved the ſame relief from large evacuations of fœtid bile in the epidemic of 1797 that I have remarked in the fever of 1793. Mr. Bryce has taken notice of the ſame ſalutary effects from ſimilar evacuations in the yellow fever on board the Buſbridge Indiaman in the year 1792. His words are, "It was obſervable that the more dark coloured, and fœtid, ſuch diſcharges were, the more early, and certainly, did the ſymptoms diſappear. Their good effects were ſo inſtantaneous, that I have often ſeen a man carried up on deck perfectly delirious with ſubſultus tendinum, and in a ſtate of the greateſt apparent debility, who after one or two copious evacuations of this kind, has returned of himſelf, and aſtoniſhed at his newly acquired ſtrength." * Very different are the effects of tonic remedies when given to remove this apparent debility. The clown who ſuppoſes the crooked appearance of a ſtick, when thruſt into a pail of water, to be real, does not err more againſt the laws of light than that

* Annals of Medicine, p. 123.

that phyſician errs againſt a law of the animal œconomy, who miſtakes the debility which ariſes from oppreſſion, for an exhauſted ſtate of the ſyſtem, and attempts to remove it by ſtimulating medicines.

After unlocking the bowels by means of calomel and jalap in the beginning of the fever, I found no difficulty afterwards in keeping them gently open by more lenient purges. In addition to thoſe which I have mentioned in the account of the fever of 1793, I yielded to the advice of my friend Dr. Griffitts, by adopting the ſoluble Tartar, and gave ſmall doſes of it daily in many caſes. It ſeldom offended the ſtomach, and generally operated, without griping, in the moſt plentiful manner.

However powerful bleeding and purging were in the cure of this fever, they often required the aid of a SALIVATION to aſſiſt them in ſubduing it.

Beſides the uſual methods of introducing mercury into the ſyſtem, Dr. Stewart accelerated its action by obliging his patients to wear ſocks filled with mercurial ointment; and Dr. Gilleſpie aimed at the ſame thing by injecting the ointment in a ſuitable vehicle into the bowels in the form of glyſters.

The

The following fact communicated to me by Dr. Stewart, will ſhew the ſafety of large doſes of calomel in this fever. Mrs. M'Phail took 60 grains of calomel, by miſtake, at a doſe, after having taken three or four doſes, of 20 grains each, on the ſame day. She took, in all, 356 grains in ſix days, and yet, ſays the Doctor, "ſuch was the ſtate of her ſtomach and inteſtines, that that large quantity was retained without producing the leaſt griping, or more ſtools than ſhe had when ſhe took three grains every two hours."

I obſerved the mercury to affect the mouth and throat in the following ways. 1. It ſometimes produced a ſwelling only in the throat reſembling a common inflammatory angina. 2. It ſometimes produced ulcers upon the lips, cheeks, and tongue, without any diſcharge from the ſalivary glands. 3. It ſometimes produced ſwellings and ulcers in the gums, and looſened the teeth without inducing a ſalivation. 4. There were inſtances in which the mercury induced a rigidity in the maſſeter muſcles of the jaw, by which means the mouth was kept conſtantly open, or ſo much cloſed, as to render it difficult for the patient to take food, and impoſſible for him to maſticate it. 5. It ſometimes affected the ſalivary glands only, producing from them a copious ſecretion and excretion of ſaliva.

But, 6. It more frequently acted upon all the above parts, and it was then it produced moſt ſpeedily its ſalutary effects. 7. The diſcharge of the ſaliva frequently took place only during the remiſſion or intermiſſion of the fever, and ceaſed with each return of its paroxyſms. 8. The ſalivation did not take place in ſome caſes until the ſolution of the fever. This was more eſpecially the caſe in thoſe forms of the fever in which there were no remiſſions or intermiſſions. 9. It ceaſed in moſt caſes with the fever, but it ſometimes continued for ſix weeks or two months, after the complete recovery of the patient. 10. The mercury rarely diſlodged the teeth. Not a ſingle inſtance occurred of a patient loſing a tooth in the city hoſpital where the phyſicians, Dr. J. Duffield informed me, relied chiefly upon a ſalivation for a cure of the fever. 11. Sometimes the mercury produced a diſcharge of blood with the ſaliva. Dr. Coulter of Baltimore gave me an account in a letter, dated the 17th of September, 1797, of a boy in whom an hæmorrhage from the ſalivary glands excited by calomel, was ſucceeded by a plentiful flow of ſaliva, which ſaved his patient. I ſaw no inconvenience from the mixture of blood with ſaliva in any of my patients. It occurred in Dr. Caldwell, Mr. Bradford, Mr. Brown, and ſeveral others.

It has been ſaid that mercury does no ſervice unleſs it purges or ſalivates. I am diſpoſed to believe that it may act as a counter ſtimulus to that of the miaſmata or contagion of the yellow fever, and thus be uſeful, without producing any evacuation from the bowels or mouth. It more certainly acts in this way, provided blood-letting has preceded its exhibition. I have ſuppoſed the ſtimulus from the remote cauſe of the yellow fever to be equal in force to five, and that of mercury, to three. To enable the mercury to produce its action upon the ſyſtem, it is neceſſary to reduce the febrile action by bleeding, to two and an half or below it, ſo that the ſtimulus of the mercury ſhall tranſcend it. The ſafety of mercury when introduced into the ſyſtem has three advantages as a ſtimulus over that of the matter which produces the fever. It excites an action in the ſyſtem preternatural only in *force*. It does not derange the *natural* order of actions. 2. It determines the actions chiefly to external parts of the body, and 3dly it fixes them when it affects the mouth and throat upon parts which are capable of bearing great inflammation and effuſion without any danger to life. The ſtimulus which produces the yellow fever acts in ways the reverſe of thoſe which have been mentioned. It produces violent *irregular* or *wrong* actions. It determines them to internal parts of the body, and it fixes them upon

viſcera which bear with difficulty and danger the uſual effects of diſeaſe. A late French writer, Dr. Fabre, aſcribed to diſeaſes a centrifugal, and a centripetal direction. From what has been ſaid, it would ſeem, the former belongs to mercury, and the latter to the yellow fever.

Conſidering the great prejudices againſt bloodletting, I have wiſhed to combat this fever with mercury alone. But for reaſons formerly given, I have been afraid to truſt to it without the aſſiſtance of the lancet. The character of the fever moreover, like that which the poet has aſcribed to Achilles, is of "ſo ſwift, irritable, inexorable, and "cruel" a nature, that it would be unſafe to rely excluſively upon a medicine which is not only of leſs efficacy than bleeding, but often ſlow, and uncertain in its operation, *more eſpecially* upon the throat and mouth.

Let not the reader be offended at my attempts to reaſon. I am aware of the evils which the weak and perverted exerciſe of this power of the mind, has introduced into medicine. But let us act with the ſame conſiſtency upon this ſubject, that we do in other things.

We

We do not conſign a child to its cradle for life, becauſe it falls in its firſt unſucceſsful efforts to uſe its legs. In like manner, we muſt not abandon reaſon, becauſe in our firſt efforts to uſe it, we have been deceived. A ſingle juſt principle in our ſcience, will lead to more truth in one year, than whole volumes of uncombined facts will do in a century.

I loſt but two patients in our late epidemic in whom the mercury excited a ſalivation. One of them died from the want of nurſing; the other by the late application of the remedy.

Of VOMITS.

It was ſaid, a practitioner who was oppoſed to bleeding and mercury, cured this fever by means of ſtrong vomits. I gave one to a man who refuſed to be bled. It operated freely, and brought on a plentiful ſweat. The next day he aroſe from his bed, and went to his work. On the 4th day he ſent for me again. My ſon viſited him and found him without a pulſe. He died the next day.

I heard of two other perſons who took emetics in the beginning of the fever without the advice of a phyſician, both of whom died.

Dr.

Dr. Pinkard informed me that their effects were generally hurtful in the violent grades of the yellow fever in the Weſt Indies.—The ſame information has ſince been given to me by Dr. Jackſon. In the 2d and 3d grades of the bilious fever, they appear not only to be ſafe, but uſeful.

Of DIET *and* DRINKS.

The advantages of a weak vegetable diet were very great in this fever. I found but little difficulty in moſt caſes in having my prohibition of animal food complied with before the criſis of the fever, but there was often ſuch a ſudden excitement of the appetite for it, immediately afterwards, that it was difficult to reſtrain it. I have mentioned the caſe of a young man who was upon the recovery, who died in conſequence of ſupping upon beef-ſtakes. Many other inſtances of the mortality of this fever from a ſimilar cauſe, I believe, occurred in our epidemic, which were concealed from our phyſicians. I am not ſingular in aſcribing the death of convaleſcents to the too early uſe of animal food. Dr. Poiſſonnier has the following important remark upon this ſubject. "The phyſicians of Breſt have obſerved, that the relapſes in the malignant fever which prevailed in their naval hoſpitals, were as much

much the effect of a fault in the diet of the ſick as of the contagious air to which they were expoſed, and that as many patients periſhed from this cauſe, as from the original fever. For this reaſon light ſoups, with leguminous vegetables in them, panada, rice ſeaſoned with cinnamon, freſh eggs, &c. are all that they ſhould be permitted to eat. The uſe of fleſh ſhould be forbidden for many days after the entire cure of the diſorder."*

Dr. Huxham has furniſhed another evidence of the danger from the premature uſe of animal food, in his hiſtory of a malignant fever which prevailed at Plymouth in the year 1740. "If any one (ſays the doctor) made uſe of a fleſh, or fiſh diet, before he had been very well purged, and his recovery confirmed, he infallibly indulged himſelf herein at the utmoſt danger of his life."†

In addition to the mild articles of diet, mentioned by Dr. Poiſſonnier, I found bread and milk with a little water, ſugar, and the pulp of a roaſted apple mixed with it, very acceptable to my patients during their convaleſcence. Oyſters were equally innocent, and agreeable. Ripe grapes were devoured

* Maladies de gens de mer, vol. 1. p. 345.

† Epidemics, vol. 11. p. 67.

voured by them with avidity, in every ſtage of the fever. The ſeaſon had been favourable to the perfection of this pleaſant fruit, and all the gardens in the city and neighbourhood in which it was cultivated, were gratuitouſly opened by the citizens for the benefit of the ſick.

The drinks were, cold water, toaſt and water, balm tea, water in which gellies of different kinds had been diſſolved, lemonade, apple water, barley and rice water, and in caſes where the ſtomach was affected with ſickneſs, or puking, weak porter and water, and cold camomile tea. In the convaleſcent ſtage of the fever, and in ſuch of its remiſſions or intermiſſions, as were accompanied with great languor in the pulſe, wine-whey, porter and water, and brandy and water, were taken with advantage.

Cold water applied to the body, cool and freſh air, and cleanlineſs, produced their uſual good effects in this fever. In the external uſe of cold water, care was taken to confine it to ſuch caſes as were accompanied with preternatural heat, and to forbid it in the cold fit of the fever and in thoſe caſes which were attended with cold hands and feet, and where the diſeaſe ſhewed a diſpoſition to terminate in its firſt ſtage, by a profuſe perſpiration. It has lately given me great pleaſure to find the ſame practice

tice in the external uſe of cold water in fevers, recommended by Dr. Currie of Liverpool in his medical reports of the effects of water, cold and warm, as a remedy in febrile diſeaſes. Of the benefit of freſh air in this fever, Dr. Dawſon of Tortola has lately furniſhed me with a ſtriking inſtance. He informed me that by removing patients from the low grounds on that iſland, where the fever is generated, to a neighbouring mountain, they generally recovered in a few days.

Finding a diſagreeable ſmell to ariſe from vinegar ſprinkled upon the floor after it had emitted all its acid vapor, I directed the floors of ſick rooms to be ſprinkled only with water. I found the vapor which aroſe from it to be grateful to my patients. A citizen of Philadelphia whoſe whole family recovered from the fever, thought he perceived evident advantages from tubs of freſh water being kept conſtantly in the ſick rooms.

Of TONIC REMEDIES.

There were now and then remiſſions and intermiſſions of the fever accompanied with ſuch ſigns of danger from debility, as to render the exhibition of a few drops of laudanum, a little wine-whey, a glaſs

glaſs of brandy and water, and in ſome inſtances a cup of weak chicken-broth highly neceſſary and uſeful. In addition to theſe cordial drinks, I directed the feet to be placed in a tub of warm water which was introduced under the bed clothes, ſo that the patient was not weakened by being raiſed from a horizontal poſture. All theſe remedies were laid aſide upon the return of a paroxyſm of fever.

I did not preſcribe bark in a ſingle caſe of this diſeaſe. An infuſion of the quaſſia root was ſubſtituted in its room in ſeveral inſtances with advantage.

Blisters were applied as uſual, but from the inſenſibility of the ſkin, they were leſs effectual than applications of muſtard to the arms and legs. It is a circumſtance worthy of notice, that while the ſtomach, bowels, and even the large blood-veſſels, are ſometimes in a highly excited ſtate, and overcharged as it were with life, the whole ſurface of the body is in a ſtate of the greateſt torpor. To attempt to excite it by internal remedies is like adding fuel to a chimney already on fire. The excitement of the blood-veſſels, and the circulation of the blood, can only be equalized by the application of ſtimulants to the ſkin. Theſe, to be effectual, ſhould be of the moſt powerful kind. Cauſtics might probably

probably be uſed in ſuch caſes with advantage. I am led to this opinion by a fact communicated to me by Dr. Stewart. A lighted candle which had been left on the bed of a woman whom he was attending in the apparent laſt ſtage of the yellow fever, fell upon her breaſt. She was too inſenſible to feel, or too weak to remove it. Before her nurſe came into her room, it had made a deep and extenſive impreſſion upon her fleſh. From that time ſhe revived, and in the courſe of a few days recovered. As a tonic remedy in this fever, Dr. Jackſon has ſpoken to me in high terms of the good effects of riding in a carriage. Patients, he informed me, who were moved with difficulty, after riding a few miles, were able to ſit up, and when they returned from their excurſions, were frequently able to walk to their beds.

Much has been ſaid of late years in favor of the application of warm olive oil to the body in the plague, and a wiſh has been expreſſed by ſome people that its efficacy might be tried in the yellow fever. Upon examining the account of this remedy as publiſhed by Mr. Baldwin, two things ſuggeſt themſelves to our notice.

1. That the oil is effectual only in the *forming* ſtate of the diſeaſe, and 2dly, that it acts chiefly by depleting from the pores of the body. From the unity of the

the remedy of depletion, it is probable, purging or bleeding might be ſubſtituted to the expenſive parade of the ſweat induced by the warm oil, and the ſmoke of odoriferous vegetables. But I muſt not conceal here, that there are facts which favour an idea, that oil produces a ſedative action upon the blood-veſſels through the medium of the ſkin. The Africans, and the American Indians, protect themſelves from fevers in the moſt ſickly ſituations, by anointing their bodies with oil. Bontius ſays, the ſame application is uſed in the Eaſt Indies, for the cure of malignant fevers, after the previous uſe of bleeding and purging. It ſeems to have been a remedy well known among the Jews, hence we find the apoſtle James adviſes its being applied to the body, in addition to the prayers of the elders of the church.* It is thus in other caſes, the bleſſings of heaven are conveyed to men through the uſe of natural means.

I have wiſhed the effects of iſſues to be tried among the prophylactic remedies of the yellow fever. They have prevented the plague in many hundred inſtances, according to Pariſinus, Florentinus, Foreſtus and ſeveral other authors quoted by Diemerbroeck.† Paræus ſays that all who had ulcers from the venereal diſeaſe, or any other cauſe, eſcaped it. Dr. Hodges owed his preſervation from ſickneſs and death

* Chapter v. verſe 14. † De Peſte, p. 103.

death in the laſt plague in London, to an iſſue in his leg. He tells us that it always gave him ſome pain when he was expoſed to the contagion, in viſiting his patients. The peſtilential matter was probably attracted by the artificial weak part in his leg, and thus thrown out of his ſyſtem.

During the exiſtence of the premonitory ſymptoms, and before patients were confined to their rooms, a gentle purge, or the loſs of a few ounces of blood, in many hundred inſtances prevented the formation of the fever. I did not meet with a ſingle exception to this remark.

Fevers are the affliction chiefly of poor people. To prevent, or to cure them, remedies muſt be cheap, and capable of being applied with but little attendance. From the affinity eſtabliſhed by the creator between evil and its antidotes in other parts of his works, I am diſpoſed to believe no remedy will ever be effectual in any general diſeaſe, that is not cheap, and that cannot eaſily be made univerſal.

It is to be lamented that the greateſt part of all the deaths which occur, are from diſeaſes that are under the power of medicine. To prevent their fatal iſſue, it would ſeem to be agreeable to the order of heaven in other things, that they ſhould be attacked in their

their forming ſtate. Weeds, vermin, public oppreſſion, and private vice, are eaſily eradicated and deſtroyed, if oppoſed by their proper remedies, as ſoon as they ſhow themſelves. The principal obſtacle to the ſucceſsful uſe of the antidotes of malignant fevers in their early ſtage ariſes from phyſicians refuſing to declare when they appear in a city, and from their practice of calling their mild forms, by other names than that of a mortal epidemic. If every record of the hiſtory of man were deſtroyed, and this inſtance only of the conduct of phyſicians preſerved, it would be ſufficient to eſtabliſh the depraved character of our ſpecies. Tyrants oppreſs, and heroes butcher their fellow creatures for plunder and fame, but phyſicians who conceal the exiſtence, or deny the real names of peſtilential diſeaſes, often become the means of deſtroying the lives of thouſands, without deriving any material benefit from their inhuman conduct.

I ſhall now ſay a few words upon the ſucceſs of the depleting practice in our late epidemic.

From the more malignant ſtate of the fever, and from the fears and prejudices that were excited againſt bleeding and mercury by means of the newspapers, the ſucceſs of thoſe remedies was much leſs than in the years 1793 and 1794. Hundreds refuſed

refuſed to ſubmit to them at the *time*, and in the *manner* that were neceſſary to render them effectual. From the publications of a number of phyſicians who uſed the lancet and mercury in their greateſt extent, it appears that they loſt but one in ten of all they attended. It was ſaid of ſeveral practitioners who were oppoſed to copious bleeding, that they loſt a much ſmaller proportion of their patients with the prevailing fever. Upon inquiry, it appeared they had loſt many more. To conceal their want of ſucceſs, they ſaid their patients had died of other diſeaſes. This mode of deceiving the public began in 1793. The men who uſed it, did not recollect, that it is leſs in favour of a phyſician's ſkill to loſe patients in pleuriſies, colics, hæmorrhagies, contuſions, and common remittents, than in a malignant yellow fever.

Dr. Sayre attended fifteen patients in the diſeaſe, all of whom recovered by the plentiful uſe of the depleting remedies. His place of reſidence being remote from thoſe parts of the city in which the fever prevailed moſt, prevented his being called to a greater number of caſes.

A French phyſician who bled and purged *moderately*, candidly acknowledged that he ſaved but three out of four of his patients.

In

In the city hoſpital, where bleeding was ſparingly uſed, and where the phyſicians depended chiefly upon a ſalivation; more than one half died of all the patients who were admitted. It is an act of juſtice to the phyſicians of the hoſpital to add, that many, perhaps moſt of their patients were admitted *after* the firſt day of the diſeaſe.

I cannot conclude this comparative view of the ſucceſs of the different modes of treating the yellow fever, without taking notice that the ſtimulating mode, as recommended by Dr. Kuhn and Dr. Stevens in the year 1793, was deſerted by every phyſician in the city. Dr. Stevens, with a candor which does honor to his integrity, acknowledged the diſeaſe to require a different treatment from that which it required in the Weſt Indies; and ſeveral other phyſicians who had written againſt bleeding and mercury, or who had doubted of their ſafety and efficacy in 1793, uſed them with confidence, and in the moſt liberal manner, in 1797. It was remarkable that the phyſicians who uſed thoſe remedies more ſparingly, reprobated in the ſame language the loſs of ten ounces of blood in the fever of 1793, than they did the loſs of 100 in the fever of the laſt year. They forgot likewiſe in their uſe of 100 or 200 grains of mercury to excite a ſalivation, their former execrations of Dr. Young's ſafe and ſimple

ſimple purge of ten grains of jalap, and ten of calomel.

In the hiſtories I have given of the yellow fevers of 1793 and 1794, I have ſcattered here and there, a few obſervations upon their degrees of danger, and the ſigns of their favourable and unfavourable iſſue. I ſhall cloſe the preſent hiſtory, by collecting thoſe obſervations into one view, and adding to them ſuch other ſigns as have occurred to me in obſerving our late epidemic.

Signs of moderate danger, and a favourable iſſue of the yellow fever.

1. A chilly fit accompanying the attack of the fever. The longer this chill continues, the more favourable the diſeaſe.

2. The recurrence of chills every day, or twice a-day, or every other day, with the return of the exacerbations of the fever. A coldneſs of the whole body at the above periods without chills, a coldneſs with a profuſe ſweat, cold feet and hands with febrile heat in other parts of the body, and a profuſe ſweat without chills, or coldneſs, are all leſs favourable ſymptoms than a regular chilly fit, but they indicate leſs danger than their total abſence during the courſe of the fever.

3. A puking of *green* or *yellow* bile on the firſt day of the diſeaſe is favourable. A diſcharge of black bile, if it occur on the *firſt* day of the fever, is not unfavourable.

4. A diſcharge of green and yellow ſtools. It is more favourable if the ſtools are of a dark or black colour, and of a fœtid and acrid nature, on the firſt or ſecond day of the fever.

5. A ſoftneſs and moiſture on the ſkin, in the beginning of the fever.

6. A ſenſe of pain in the head, or a ſudden tranſlation of pain from internal to external parts of the body, particularly to the back. An increaſe of pain after bleeding.

7. A ſore mouth.

8. A white or a yellow tongue.

9. An early diſpoſition to ſpit freely, whether excited by nature, or the uſe of mercury.

10. Blood becoming ſizy, after having exhibited the uſual marks of great morbid action in the blood-veſſels.

11. Great

11. Great and exquiſite ſenſibility in the ſenſe of feeling coming on near the cloſe of the fever.

Signs of great danger, and of an unfavourable iſſue of the yellow fever.

1. An attack of the fever, ſuddenly ſucceeding great terror, anger, or the intemperate uſe of venery.

2. The firſt paroxyſm coming on without any premonitory ſymptoms, or a chilly fit.

3. A coldneſs over the whole body without chills for two or three days.

4. A ſleepineſs on the firſt and ſecond days of the fever.

5. Uncommon paleneſs of the face not induced by blood-letting.

6. Conſtant, or violent vomiting without any diſcharge of bile.

7. Obſtinate coſtiveneſs, or a diſcharge of natural, or white ſtools.

8. A diarrhœa towards the cloſe of the fever. I loſt two patients in 1797 with this ſymptom who had exhibited a few days before, ſigns of a recovery. Dr. Pinkard informed me that it was generally attended with a fatal iſſue in the yellow fever of the Weſt Indies. Diemerbroeck declares, that "ſcarcely one in an hundred recovered, with this ſymptom, from the plague." *

9. A ſuppreſſion of urine. It is moſt alarming when it is without pain.

10. A diſcharge of dark coloured and bloody urine.

11. A cold, cool, dry, ſmooth, or ſhining ſkin.

12. The appearance of a yellow colour in the face on the firſt or ſecond day of the fever.

13. The abſence of pain or a ſudden ceſſation of it, with the common ſymptoms of great danger.

14. A diſpoſition to faint upon a little motion, and fainting after loſing but a few ounces of blood.

15. A

* Lib. 1. cap. xv.

15. A watery, glaſſy, or brilliant eye. A red eye on the 4th or 5th day of the diſeaſe. It is more alarming if it become ſo after having been previouſly yellow.

16. Imperfect viſion, and blindneſs in the cloſe of the diſeaſe.

17. Deafneſs.

18. A preternatural appetite, more eſpecially in the laſt ſtage of the fever.

19. A ſlow, intermitting, and ſhattered pulſe.

20. Great reſtleſſneſs, delirium and long continued coma.

21. A diſcharge of coffee-coloured, or black bile from the ſtomach after the 4th day of the fever.

I ſhall conclude this head by the following remarks.

1. The violence, danger, and probable iſſue of this fever, ſeem to be in proportion to the duration and force of the prediſpoſing and exciting cauſes. However ſteady the former are in bringing on debility,

lity, and the latter in acting as ſtimulants upon accumulated excitability, yet a knowledge of their duration and force is always uſeful, not only in forming an opinion of the probable iſſue of the fever, but in regulating the force of remedies.

2. The ſigns of danger vary in different years from the influence of the weather upon the diſeaſe.

3. Notwithſtanding the ſigns of the favourable and unfavourable iſſue of the fever, are in general uniform when the cure of the diſeaſe is committed to nature, or to tonic medicines, yet they are far from being ſo when the treatment of the fever is taken out of the hands of nature, and attempted by the uſe of depleting remedies. We often ſee patients recover with nearly all the unfavourable ſymptoms that have been mentioned, and we ſometimes ſee them die, with all thoſe that are favourable. The words of Morellus therefore which he has applied to the plague, are equally true, when applied to the yellow fever. "In the plague our ſenſes deceive us. Reaſon deceives us. The aphoriſms of Hippocrates deceive us."* An important

* De feb. peſtilent. cap. v. "Acutorum morborum incertæ admodum, ac fallaces ſunt prædictiones."

HIPPOCRATES.

portant leſſon may be learned from theſe facts, and that is, never to give a patient over. On the contrary, it is our duty in this, as well as in all other acute diſeaſes, to diſpute every inch of ground with death. By means of this practice which is warranted by ſcience, as well as dictated by humanity, the grave has often been deprived for a while of its prey, and a prelude thereby exhibited of that approaching and delightful time foretold by ancient prophets, when the power of medicine over diſeaſes ſhall be ſuch, as to render old age the only outlet of human life.

OBSERVATIONS

UPON THE

NATURE AND CURE

OF THE

GOUT

L

OBSERVATIONS, &c.

IN treating upon the gout, I ſhall deliver a few preliminary propoſitions.

1. The gout is a diſeaſe of the whole ſyſtem. It affects the ligaments, blood-veſſels, ſtomach, bowels, brain, liver, lymphatics, nerves, muſcles, cartilages, bones and ſkin.

2. The gout is a primary diſeaſe, only of the ſolids. Chalk-ſtones, abſceſſes, dropſical effuſions into cavities, and cellular membrane, and eruptions on the ſkin, are all the effects of a morbid action in the blood-veſſels. The truth of this propoſition has been ably proved by Dr. Cullen in his firſt lines.

3. It

3. It affects moſt frequently perſons of a ſanguineous temperament; but ſometimes it affects perſons of nervous, and phlegmatic temperaments. The idle and luxurious are more ſubject to it, than the labouring and temperate part of mankind. Women are ſaid to be leſs ſubject to it than men. I once believed, and taught this opinion, but I now retract it. From the peculiar delicacy of the female conſtitution, and from the thin covering they wear on their feet, and limbs, the gout is leſs apt to fall upon thoſe parts than in men, but they exhibit all its other ſymptoms, perhaps more frequently than men, in other parts of the body. The remote cauſes of gout moreover to be mentioned preſently, act with equal force upon both ſexes, and more of them I believe upon women than upon men.

It generally attacks in thoſe periods of life, and in thoſe countries, and ſeaſons of the year, in which inflammatory diſeaſes are moſt common. It ſeldom affects perſons before puberty, or in old age, and yet I have heard of its appearing with all its moſt characteriſtic ſymptoms in this city in a child of 6, and in a man above 80 years of age. Men of active minds are ſaid to be moſt ſubject to it, but I think I have ſeen it as frequently in perſons of ſlender and torpid intellects, as in perſons of an oppoſite character. I have heard of a caſe of gout in an Indian at Pittſburgh, and

I have

have cured a fit of it in an Indian in this city. They had both been intemperate in the uſe of wine and fermented liquors.

4. It is in one reſpect an hereditary diſeaſe depending upon the propagation of a ſimilar temperament from father to ſon. When a prediſpoſition to the gout has been derived from anceſtors, leſs force in exciting cauſes will induce it than in thoſe habits where this has not been the caſe. This prediſpoſition ſometimes paſſes by children, and appears in grandchildren. There are inſtances likewiſe in which it has paſſed by the males, and appeared only in the females of a family. It even appears in the deſcendants of families who have been reduced to poverty, but not often where they have been obliged to labour for a ſubſiſtence. It generally paſſes by thoſe children who are born before the gout makes its appearance in a father. It is curious to obſerve, how extenſively the prediſpoſition pervades ſome families. An Engliſh gentleman who had been afflicted with the gout married a young woman in Philadelphia many years ago, by whom he had one daughter. His wife dying three weeks after the birth of this child, he returned to England, where he married a ſecond wife, by whom he had ſix children, all of whom except one died with the gout before they attained to the uſual age of matrimony in Great Britain. One of them

them died in her 16th year. Finally the father and grand-father died with the ſame diſorder. The daughter whom this afflicted gentleman left in this city, paſſed her life ſubject to the gout, and finally died under my care in the year 1789 in the 68th year of her age. She left a family of children, two of whom have had the gout. One of them, a lady, has ſuffered exquiſitely from it.

5. The gout is always induced by general predispoſing direct or indirect debility.

6. The remote cauſes of the gout which induce this debility, are, indolence, great bodily labour, long protracted bodily exerciſe, intemperance in eating, and in venery, acid aliments and drinks, ſtrong tea and coffee, public and domeſtic vexation, the violent, or long continued exerciſe of the underſtanding, imagination and paſſions in ſtudy, buſineſs or pleaſure, and laſtly, the uſe of ardent, and fermented liquors. The laſt are abſolutely neceſſary to produce that form of gout which appears in the ligaments and muſcles. I aſſert this, not only from my own obſervations, but from thoſe of Dr. Cadogan, and Dr. Darwin, who ſay they never ſaw a caſe of gout in the limbs in any perſon who had not uſed ſpirits or wine in a greater or leſs quantity. Perhaps this may be another reaſon why women,

men, who drink leſs of thoſe liquors than men, are ſo rarely affected with this diſeaſe in the extreme parts of their bodies. Wines of all kinds are more diſpoſed to produce this form of gout than ſpirits. The reaſon of this muſt be reſolved into the leſs ſtimulus in the former, than in the latter liquors. Wine appears to reſemble in its action upon the body, the moderate ſtimulus of miaſmata which produce a common remitting fever, or intermitting fever, while ſpirits reſemble that violent action induced by miaſmata which paſſes by the blood-veſſels, ligaments and muſcles, and invades at once the liver, bowels and brain. There is one ſymptom of the gout in the extremities which ſeems to be produced excluſively by ardent ſpirits, and that is a burning in the palms of the hands, and ſoles of the feet. This is ſo uniform, that I have ſometimes been able to convict my patients of intemperance in the uſe of ſpirits, when no other mark of their having taken them in *exceſs*, appeared in the ſyſtem.

7. The exciting cauſes of the gout are frequently a greater degree, or a ſudden application of its remote and prediſpoſing cauſes. They act upon the accumulated excitability of the ſyſtem, and by deſtroying its equilibrium of excitement, and regular order of actions, produce convulſion, or irregular morbid

morbid and local excitement. Theſe exciting cauſes are either of a ſtimulating, or of a ſedative nature. The former are violent exerciſe, of body or mind, night-watching, and even ſitting up late at night, a hearty meal, a fit of drunkenneſs, a few glaſſes of claret or a draught of cyder, where thoſe liquors have not been habitual to the patient, a ſudden paroxyſm of joy, anger, or terror, a diſlocation of a bone, ſtraining of a joint, particularly of the ankle, undue preſſure upon the foot, or leg, from a tight ſhoe or boot, an irritated corn, and the uſual remote cauſes of fever. The latter exciting cauſes, are ſudden inanition from bleeding, purging, vomiting and faſting. Cold, fear, grief, exceſs in venery, and the debility left upon the ſyſtem by the criſis of a fever. All theſe cauſes act more certainly when they are aided by the additional debility induced upon the ſyſtem in ſleep. It is for this reaſon that the gout generally makes its firſt attack in the middle of the night, and in a part of the ſyſtem moſt remote from the action of the heart, and the energy of the brain, viz. in the great toe, or in ſome part of the foot.—In aſcribing a fit of the gout to a cauſe which is of a ſedative nature, the reader will not ſuppoſe that I have departed from the ſimplicity and uniformity of a propoſition, I have elſewhere delivered,* that diſeaſe is the effect

* Medical Inquiries and Obſervations, vol. iv.

fect of ſtimulus. The abſtraction of a natural and habitual impreſſion of any kind, by increaſing the force of thoſe which remain, renders the production of morbid, and exceſſive actions in the ſyſtem as much the effect of preternatural or diſproportioned ſtimulus, as if they were induced by cauſes that are externally and evidently ſtimulating. It is thus in many other of the operations of nature, oppoſite cauſes produce the ſame effects.

8. The proximate cauſe of the gout as of all other diſeaſes, is morbid excitement, accompanied with irregular action, or the abſence of all action from the force of ſtimulus. There is nothing ſpecific in the morbid excitement and actions which take place in the gout different from what occur in fevers. However varied morbid actions may be by their cauſes, ſeats, and effects, they are all of the ſame, and the time will probably come when the whole nomenclature of morbid actions will be abſorbed in the ſingle name of diſeaſe.

I ſhall now briefly enumerate the ſymptoms of the gout as they appear in the ligaments, the blood-veſſels, the viſcera, the nervous ſyſtem, the alimentary canal, the lymphatics, the ſkin, and the bones of the human body.

I. The

I. The ligaments which connect the bones are the ſeats, of what is called a legitimate or true gout. They are affected with pain, ſwelling, and inflammation. The pain is ſometimes ſo acute as to be compared to the gnawing of a dog. We perceive here the ſameneſs of the gout with the rheumatiſm. Many pages, and indeed whole eſſays have been compoſed by writers to diſtinguiſh them, but they are exactly the ſame diſeaſe while the morbid actions are confined to this part of the body. They are it is true produced by different remote cauſes, but this conſtitutes no more difference in their nature, than is produced in a coal of fire whether it be inflamed by a candle, or by a ſpark of electricity. The morbid actions which are induced by the uſual cauſes of rheumatiſm affect, though leſs frequently, the lungs, the trachea, the head, the bowels, and even the heart, as well as the gout. Thoſe actions, moreover, are the means of a fluid being effuſed which is changed into calcarious matter in the joints and other parts of the body exactly like that which is produced by the gout. They likewiſe twiſt and diſlocate the bones in common with the gout, in a manner to be deſcribed hereafter. The only difference between what are called gouty, and rheumatic actions, conſiſts in their ſeats and in the degrees of their force. The debility which prediſpoſes to the gout, being greater, and more

more extenſively diffuſed through the body than the debility which precedes rheumatiſm, the morbid actions in the former caſe, paſs more readily from external to internal parts, and produce in both, more acute and more dangerous effects. A ſimile derived from the difference in the degrees of action produced in the ſyſtem by marſh miaſmata, made uſe of upon a former occaſion, will ſerve me again to illuſtrate this part of our ſubject. A mild remittent, and a yellow fever are different grades of the ſame diſeaſe. The former, like the rheumatiſm, affects the bones chiefly with pain, while the latter, like the gout, affects not only the bones, but the ſtomach, bowels, brain, nerves, lymphatics, and all the internal parts of the body.

II. In the arterial ſyſtem the gout produces fever. This fever appears not only in the increaſed force or frequency of the pulſe, but in morbid affections of all the viſcera. It puts on all the different grades of fever from the malignity of the plague, to the mildneſs of a common intermittent. It has moreover its regular exacerbations and remiſſions once in every four and twenty hours, and its criſis uſually on the 14th day in violent caſes. In moderate attacks, it runs on from 20 to 40 days in common with the typhus or ſlow chronic ſtate of fever. It is common for thoſe perſons who conſider the

the gout as a ſpecific diſeaſe, when it appears in the above forms, to ſay, that it is complicated with fever; but this is an error, for there can exiſt but one morbid action in the blood-veſſels at once, and the ſame laws are impoſed upon the morbid actions excited in thoſe parts of the body by the remote cauſes of the gout, as by the common cauſes of fever. I have ſeen two inſtances of this diſeaſe appearing in the form of a genuine hectic, and one in which it appeared to yield to lunar influence in the manner deſcribed by Dr. Balfour. * In the highly inflammatory ſtate of the gout the ſenſibility of the blood-veſſels far exceeds what is ſeen in the ſame ſtate of fever from more common cauſes. I have known an inſtance in which a tranſlation of the gouty action to the eye produced ſuch an exquiſite

* The influence of the moon in fevers is not confined to Bengal. Diemerbroeck has the following remark upon it in his treatiſe upon the plague in Holland, lib. 1. cap. v. "Duobus tribuſve diebus, ante et poſt novilunium, ut et "plenilunium, hæc dira lues ſemper exacerbata fuit, eoque "tempore, et plurimos morbos corripiebat, et quos tunc invadebat, illi fere omnes moriebantur." Dr. Pinkard informed me that he had obſerved perſons in Demerara to be more diſpoſed to attacks, and relapſes of fever, within the lunar periods than at any other time. From ſome facts that have lately come to my knowledge, I am ſatisfied the influence of the full and new moon, is ſenſibly felt in the fevers of Philadelphia.

quiſite degree of ſenſibility, that the patient was unable to bear the feeble light which was emitted from a few coals of fire in his room, at a time too when the coldneſs of the weather would have made a large fire agreeable to him. It is from the extreme ſenſibility which the gout imparts to the ſtomach that the bark is ſo generally rejected by it. I knew a Britiſh officer who had nearly died from taking a ſpoonful of the infuſion of that medicine while his arterial ſyſtem was in this ſtate of morbid excitability from a fit of the gout. It is remarkable that the gout is moſt diſpoſed to aſſume a malignant character during the prevalence of an inflammatory conſtitution of the atmoſphere. This has been long ago remarked by Dr. Huxham. Several inſtances of it have occurred in this city ſince the year 1793.

III. The gout affects moſt of the viſcera. In the brain it produces head-ach, vertigo, coma, apoplexy, and palſy. In the lungs it produces pneumonia vera, notha, aſthma, hæmoptyſis, pulmonary conſumption, and a ſhort hecking cough, firſt deſcribed by Dr. Sydenham. In the throat it produces inflammatory angina. It affects the kidneys with inflammation, ſtrangury, diabetes and calculi. The poſition of the body for weeks or months on the back, by favouring the compreſſion of the kidneys

neys by the bowels, is the principal reaſon why thoſe parts ſuffer ſo much in gouty people. The ſtrangury appears to be produced by the ſame kind of engorgement or choking of the veſſels of the kidneys, which takes place in the ſmall-pox and yellow fever. Four caſes of it are deſcribed in the 3d volume of the Phyſical and Literary Eſſays of Edinburgh, by Dr. David Clerk. I have ſeen one inſtance of death in an old man from this cauſe. The catheter brought no water from his bladder. The late Mr. John Penn formerly governor of Pennſylvania, I have been informed by one of his phyſicians, died from a ſimilar affection in his kidneys from gout. The catheter was as ineffectual in giving him relief, as it was in the caſe of my patient. The neck of the bladder ſometimes becomes the ſeat of the gout. It diſcovers itſelf by ſpaſm, and a ſuppreſſion of urine in ſome caſes, and occaſionally by an habitual diſcharge of mucus through the urethra. This diſorder has been called by Lieuteaud, "a catarrh of the bladder." But of all the viſcera, the liver ſuffers moſt from the gout. It produces in it inflammation, ſuppuration, melena, ſchirrus, gall-ſtones, jaundice, and an habitual increaſed ſecretion and excretion of bile. Theſe diſorders in the liver appear moſt frequently in ſouthern countries, and in female habits. They are ſubſtitutes for a gout in the ligaments, and in the extremities

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of the body. They appear likewiſe in drunkards from ardent ſpirits. It would ſeem that certain ſtimuli act ſpecifically upon the liver, probably for the wiſe purpoſe of diſcharging ſuch parts of the blood from the body, as are vitiated by the rapidity of its circulation. I have in a former publication,* taken notice of the action of marſh miaſmata upon the livers of men and beaſts. It has been obſerved that hogs that live near brewhouſes, and feed upon the fermented grains of barley, always diſcover enlarged or diſeaſed livers. But a determination of the blood to the liver, and an increaſed action of its veſſels, are produced by other cauſes than marſh miaſmata, and fermented and diſtilled liquors. They appear in the fever which accompanies madneſs and the malignant ſore-throat, alſo in contuſions of the brain, and in the excited ſtate of the blood-veſſels which is produced by anger and exerciſe. I have found an attention to theſe facts uſeful in preſcribing for diſeaſes of the liver, inaſmuch as they have led me from conſidering them as idiopathic affections, but as the effects only of morbid actions excited in other parts of the body.

IV. The gout ſometimes affects the arterial, and nervous ſyſtems *jointly*, producing in the *brain*, coma,

* Medical Inquiries and Obſervations, vol. iv.

coma, vertigo, apoplexy, palſy, loſs of memory, and madneſs, and in the *nerves*, hyſteria, hypochondriaſis, and ſyncope. It is common to ſay the gout counterfeits all theſe diſeaſes. But this is an inaccurate mode of ſpeaking. All thoſe diſeaſes have but one proximate cauſe, and they are exactly the ſame, however different the ſtimulus may be, from which they are derived. Sometimes the gout affects the brain and nerves excluſively, without producing the leaſt morbid action in the blood-veſſels. I once attended a gentleman from Barbadoes who ſuffered from this affection of his brain and nerves, the moſt intolerable depreſſion of ſpirits. It yielded to large doſes of wine, but his relief was perfect, and more durable, when a pain was excited by nature or art, in his hands or feet.

The muſcles are ſometimes affected by the gout with ſpaſm, with general and partial convulſions, and laſtly with great pain. The angina pectoris, or a ſudden inability to breathe after climbing a hill, or a pair of ſtairs, and after a long walk, is ſometimes a ſymptom of the gout. There is a pain which ſuddenly pervades the head, breaſt and limbs, which reſembles an electric ſhock. I have known two inſtances of it in gouty patients, and have taken the liberty of calling it the "aura arthritica." But the pain which affects the muſcles is often of

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a more permanent nature. It is felt with moſt ſeverity in the calves of the legs. Sometimes it affects the muſcles of the head, breaſt and limbs, exciting in them large and diſtreſſing ſwellings. But further; the gout in ſome caſes ſeizes upon the tendons, and twiſts them in ſuch a manner as to diſlocate bones in the hands and feet. It even affects the cartilages. Of this I once ſaw an inſtance in Col. Adams of the ſtate of Maryland. The external parts of both his ears were ſo much inflamed in a fit of the gout, that he was unable to lie on either of his ſides.

V. The gout affects the alimentary canal from the ſtomach, to its termination in the rectum. Flatulency, ſickneſs, indigeſtion, pain, or vomiting, uſually uſher in a fit of the diſeaſe. The ſick headach, alſo dyſpepſia, with all its train of diſtreſſing evils, are frequently the effects of gout concentrated in the ſtomach. I have ſeen a caſe in which the gout, by retreating to this viſcus, produced the ſame burning ſenſation which is felt in the yellow fever. The patient who was the ſubject of this ſymptom died two days afterwards with a black vomiting. It was Mr. Patterſon, formerly collector of the port of Philadelphia, under the Britiſh government. I was not ſurpriſed at theſe two uncommon ſymptoms in the gout, for I had long been familiar with

its diſpoſition to affect the biliary ſecretion, and the actions of the ſtomach. The colic and dyſentery, are often produced by the gout in the bowels. In the ſouthern ſtates of America it often produces a chronic diarrhœa, which is known in ſome places by the name of the "downward conſumption." The piles are a common ſymptom of gout, and where they pour forth blood occaſionally render it a harmleſs diſeaſe. I have known an inſtance in which a gouty pain in the rectum produced involuntary ſtools in a gentleman in this city, and I have heard from a ſouthern gentleman who had been afflicted with gouty ſymptoms, that a ſimilar pain was excited in the ſame part to ſuch a degree, whenever he went into a crouded room lighted by candles, as to oblige him to leave it. In conſidering the effects of the gout upon this part, I am led to take notice of a troubleſome itching in the anus which has been deſcribed by Dr. Lettſom, and juſtly attributed by him to this diſeaſe. * I have known ſeveral caſes of it. They always occurred in gouty habits.

Of the above morbid affections of the nerves, ſtomach and bowels, the hyſteria, the ſick headach, and the colic, appear much oftener in women than in men. I have ſaid that dyſpepſia is a ſymptom

* Medical Memoirs, vol. iii.

tom of gout. Out of more than 500 perſons who were the patients of the Liverpool infirmary and diſpenſary in one year, Dr. Currie informs us, "a great majority were females." †

VI. The gout affects the glands and lymphatics. It produced a ſalivation of a profuſe nature in Major Pearce Butler, which continued for two days. It produced a bubo in the groin in a citizen of Philadelphia. He had never been infected with the venereal diſeaſe, of courſe no ſuſpicion was entertained by me of its being derived from that cauſe. I knew a lady who had periodical ſwellings in her breaſts, at the ſame ſeaſon of the year in which ſhe had before been accuſtomed to have a regular fit of the gout. The ſcrophula and all the forms of dropſy are the effects in many caſes of the diſpoſition of the gout to attack the lymphatic ſyſtem. There is a large hard ſwelling without pain, of one, or both the legs and thighs, which has been called a dropſy, but is very different from the common diſeaſe of that name. It comes on, and goes off ſuddenly. It has lately been called in England the *dumb* gout. In the ſpring of 1798 I attended Col. Innes of Virginia in conſultation with my Edin-

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† Medical Reports on the Effects of Hot and Cold Water, p. 215.

burgh friend and fellow ſtudent, Dr. Jones of the ſame ſtate. The Colonel had large anaſarcous ſwellings in his thighs and legs, which we had reaſon to believe were the effects of an indolent gout. We made ſeveral punctures in his feet and ankles, and thereby diſcharged a large quantity of water from his legs and thighs. A day or two afterwards his ankles exhibited in pain and inflammation, the uſual form of gout in thoſe parts. In the year 1794 I attended Mrs. Lloyd Jones, who had a ſwelling of the ſame kind in her foot and leg. Her conſtitution, habits, and the ſober manners of her anceſtors, gave me no reaſon to ſuſpect it to ariſe from the uſual remote cauſes of gout. She was feveriſh, and her pulſe was tenſe. I drew ten ounces of blood from her, and gave her a purge. The ſwelling ſubſided, but it was ſucceeded by an acute rheumatic pain in the part, which was cured in a few days. I mention theſe facts as an additional proof of the fameneſs of the gout and rheumatiſm, and to ſhew that the veſſels in a ſimple diſeaſe, as well as in malignant fevers, are often oppreſſed beyond that point in which they emit the ſenſation of pain.

Under this head, I ſhall include an account of the mucous diſcharge from the urethra which ſometimes takes place in an attack of the gout, and which

which has ignorantly been aſcribed to a venereal gonorrhœa. There is a deſcription of this ſymptom of the gout in the 3d volume of the Phyſical and Literary Eſſays of Edinburgh by Dr. Clark. It was firſt taken notice of by Sauvages by the name of "gonorrhœa podagrica" in a work entitled Pathologia Methodica. I have known three inſtances of it in this city. In the viſits which the gout pays to the genitals, it ſometimes excites great pain in the teſticles. Dr. Whyt mentions three caſes of this kind. One of them was attended with a troubleſome itching of the ſcrotum. I have ſeen one caſe in which the teſticles were affected with great pain, and the penis with an obſtinate priapiſm. They ſucceeded a ſudden tranſlation of the gout from the bowels.

From the occaſional diſpoſition of the gout to produce a mucous diſcharge from the urethra in men, it is eaſy to conceive that it is the frequent cauſe of the fluor albus in women, for in them, the gout which is reſtrained from the feet, by a cauſe formerly mentioned is driven to other parts, and particularly to that part which from its offices, is more diſpoſed to invite diſeaſe to it, than any other. The fluor albus ſometimes occurs in females, apparently of the moſt robuſt habits. In ſuch perſons, more eſpecially if they have been deſcended from

from gouty anceſtors, and have led indolent and luxurious lives, there can be no doubt but the diſeaſe is derived from the gout, and ſhould be treated with remedies which act, not only upon the affected part, but the whole ſyſtem. An itching ſimilar to that I formerly mentioned in the anus, ſometimes occurs in the vagina of women. Dr. Lettſom has deſcribed it. In all the caſes I have known of it, I believe it was derived from the uſual cauſes of the gout.

VII. There are many records in the annals of medicine of the gout affecting the ſkin. The erysipelas, gangrene and petechiæ are its acute, and tetters, and running ſores are its uſual chronic forms when it appears in this part of the body. I attended a patient with the late Dr. Hutchinſon in whom the whole calf of one leg was deſtroyed by a mortification which ſucceeded the gout. Dr. Alexander of Baltimore informed me that petechiæ were among the laſt ſymptoms of this diſeaſe in the Rev. Mr. Oliver who died in the town of Baltimore about two years ago. In the diſpoſition of the gout to attack external parts, it ſometimes affects the eyes and ears with the moſt acute and diſtreſſing inflammation and pain. I heſitate the leſs in aſcribing them both to the gout, becauſe they not only occur in gouty habits, but becauſe they now and then effuſe a calcarious matter of the ſame nature

ture with that which is found in the ligaments of the joints.

VIII. Even the bones are not exempted from the ravages of this diſeaſe. I have before mentioned that the bones of the hands and feet are ſometimes diſlocated by it. I have heard of an inſtance in which it diſlocated the thigh bone. It probably produced this effect by the effuſion of chalk-ſtones, or by an excreſcence of fleſh in the cavity of the joint. Two inſtances have occurred in this city of its diſlodging the teeth, after having produced the moſt diſtreſſing pains in the jaws.—The long protracted, and acute pain in the face which has been ſo accurately deſcribed by Dr. Fothergill, probably ariſes wholly from the gout acting upon the bones of the part affected.

I have more than once hinted at the ſameneſs of ſome of the ſtates of the gout, and the yellow fever. Who can compare the ſymptoms and ſeats of both diſeaſes, and not admit the unity of the remote and proximate cauſes of fever?

Thus have I enumerated proofs of the gout being a diſeaſe of the *whole* ſyſtem. I have only to add under this propoſition, that it affects different parts of the body in different people according to the nature

nature of their congenial, or acquired temperaments, and that it often paſſes from one part of the body to another in the twinkling of an eye.

The morbid excitement, and actions of the gout, when ſeated in the ligaments, the blood-veſſels, and viſcera, and left to themſelves, produce effects different in their nature, according to the parts in which they take place. In the viſcera they produce congeſtions compoſed of all the component parts of the blood. From the blood-veſſels which terminate in hollow cavities and in cellular membrane, they produce thoſe effuſions of ſerum which compoſe dropſies. From the ſame veſſels, proceed thoſe effuſions which produce on the ſkin eryſipelas, tetters, and all the different kinds of eruptions. In the ligaments they produce an effuſion of coagulable lymph, which by ſtagnation is changed into what are called chalk-ſtones. In the urinary organs they produce an effuſion of particles of coagulable lymph or red blood, which under certain circumſtances, are changed into ſand, gravel and ſtone. All theſe obſervations are liable to ſome exceptions. There are inſtances in which chalk-ſtones have been found in the lungs, mouth, on the eye-lids, and in the paſſages of the ears, and a preternatural flux of water and blood has taken place from the kidneys. Pus has likewiſe been formed in the joints,

joints, and air has been found in the cavity of the belly inſtead of water.

Sometimes the gout is ſaid to combine with the fevers which ariſe from cold and contagion. We are not to ſuppoſe from this circumſtance, that the ſyſtem is under a peculiar ſtimulus from the gout. By no means. The ſymptoms which are aſcribed to the gout, are the effects of morbid excitement excited by the cold, or contagion acting upon parts previouſly debilitated by the uſual remote cauſes of that diſeaſe.

From a review of the ſymptoms of the gout, the impropriety of diſtinguiſhing it from its various ſeats, by ſpecific names, muſt be obvious to the reader. As well might we talk of a yellow fever in the brain, in the nerves, or in the groin, when its ſymptoms affect thoſe parts, as talk of *miſplaced*, or *retrocedent* gout. The great toe and the joints of the hands, and feet are no more its excluſive ſeats, than the "ſtomach is the throne of the yellow fever." In ſhort, the gout may be compared to a monarch whoſe empire is unlimited. The whole body crouches before it.

It has been ſaid as a reflexion upon our profeſſion, that phyſicians are always changing their opinions reſpecting chronic diſeaſes. For a long while they were

were all claſſed under the heads of nervous, or bilious. Theſe names for many years afforded a ſanctuary for the protection of fraud and error in medicine. They have happily yielded of late years to the name of gout. If we mean by this diſeaſe a primary affection of the joints, we have gained nothing by aſſuming that name, but if we mean by it a diſeaſe which conſiſts ſimply of morbid excitement, invited by debility, and diſpoſed to invade every part of the body, we conform our ideas to facts, and thus ſimplify theory and practice in chronic diſeaſes.

I proceed now to treat of the METHOD OF CURE.

Let not the reader ſtartle when I mention curing the gout. It is not a ſacred diſeaſe. There will be no profanity in handling it freely. It has been cured often, and I hope to deliver ſuch directions under this head, as will reduce it as much under the power of medicine, as a pleuriſy or an intermitting fever. Let not ſuperſtition ſay here, that the gout is the juſt puniſhment of folly, and vice, and that the juſtice of heaven would be defeated by curing it. The venereal diſeaſe is more egregiouſly the effect of vice than the gout, and yet heaven has kindly directed human reaſon to the diſcovery of a remedy which effectually eradicates it from the conſtitution. This opinion of the gout being a curable diſeaſe, is as humane

mane as it is juſt. It is calculated to prompt to early applications for medical aid, and to prevent that deſpair of relief which has contributed much to its duration, and mortality.

But does not the gout prevent other diſeaſes, and is it not improper upon this account to cure it? I anſwer, that it prevents other diſeaſes, as the daily uſe of drams, prevents the intermitting fever. In doing this, they bring on an hundred more incurable morbid affections. The yellow fever carried off many chronic diſeaſes in the year 1793, and yet who would wiſh for, or admit ſuch a remedy for a ſimilar purpoſe? The practice of encouraging, and inviting what has been called a friendly fit of the gout as a cure for other diſeaſes, reſembles the practice of ſchool boys who ſwallow the ſtones of cherries to aſſiſt their ſtomachs in digeſting that delicate fruit. It is no more neceſſary to produce the gout in the feet, in order to cure it, than it is to wait for, or encourage abſceſſes or natural hæmorrhages, to cure a fever. The practice originated at a time when morbific matter was ſuppoſed to be the cauſe of the gout, but it has unfortunately continued under the influence of theories which have placed the ſeat of the diſeaſe in the ſolids.

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The remedies for the gout naturally divide themſelves into the following heads.

I. Such as are proper in its approaching, or forming ſtate.

II. Such as are proper in *violent* morbid action in the blood-veſſels, and viſcera.

III. Such as are proper in a *feeble* morbid action in the ſame parts of the body.

IV. Such as are proper to relieve certain local ſymptoms which are not accompanied by general morbid action, and

V. Such as are proper to prevent its recurrence, or in other words to eradicate it from the ſyſtem.

I. The ſymptoms of an approaching fit of the gout are great languor, and dulneſs of body, and mind, dozineſs, giddineſs, wakefulneſs, or ſleep diſturbed by vivid dreams, a dryneſs, and ſometimes a coldneſs, numbneſs, and prickling in the feet and legs, occaſional chills, acidity and flatulency in the ſtomach, with an increaſed, a weak, or a defect of appetite. Theſe ſymptoms are not univerſal, but more or leſs of them uſher in nearly every fit of the gout. The reader will ſee at once their ſameneſs with the premonitory ſymptoms of fever from cold and contagion,

on, and aſſent from this proof, in addition to others formerly mentioned, to the propriety of conſidering a fit of the gout, as a paroxyſm of fever.

The ſyſtem during the exiſtence of theſe ſymptoms is in a ſtate of debility. The diſeaſe is as yet unformed, and may eaſily be prevented by the loſs of a few ounces of blood, or if this remedy be objected to, by a gentle doſe of phyſic, and afterwards by bathing the feet in warm water, by a few drops of the ſpirit of hartſhorn in a little ſage or camomile tea, by a draught of wine-whey, or a common doſe of liquid laudanum.

It is worthy of notice, that if theſe remedies are omitted, all the premonitory ſymptoms that have been mentioned diſappear as ſoon as the arthritic fever is formed, juſt as laſſitude and chilline ſs yield to a paroxyſm of fever from other cauſes.

II. Of the remedies that are proper in caſes of great morbid action in the blood-veſſels and viſcera.

I ſhall begin this head by repudiating the notion of a ſpecific cure for the gout exiſting in any ſingle article of the materia medica. Every attempt to cure it by elixirs, diet-drinks, pills, or boluſſes which were intended to act ſingly upon the ſyſtem, has been

as

as unſucceſsful as the attempts to cure the whooping cough by ſpells, or tricks of legerdemain.

The firſt remedy that I ſhall mention for reducing great morbid action in the blood-veſſels and viſcera is BLOOD-LETTING. I was firſt taught the ſafety of this remedy in the gout by reading the works of Dr. Liſter nearly thirty years ago, and I have uſed it ever ſince with great advantage. It has the ſanction of Dr. Hoffman, Dr. Cullen and many others of the firſt names in medicine in its favour.

The uſual objections to bleeding as a remedy, have been urged with more ſucceſs in the gout, than in any other diſeaſe. It has been forbidden, becauſe the gout is ſaid to be, a diſeaſe of debility. This is an error. Debility is not a diſeaſe. It is only its prediſpoſing cauſe. Diſeaſe is preternatural ſtrength in the ſtate of the ſyſtem now under conſideration, occaſioned by the abſtraction of excitement from one part, and the accumulation of it in another part of the body. Every argument in favor of bleeding in a pleuriſy, applies in the preſent inſtance, for they both depend upon the ſame kind of morbid action in the blood-veſſels. Bleeding acts morever alike in both caſes by abſtracting the exceſs of excitement, from the blood-veſſels, and reſtoring its natural and healthy equality to every part of the ſyſtem.

It

It has been further ſaid, that bleeding diſpoſes to more frequent returns of the gout. This objection to the lancet has been urged by Dr. Sydenham who was miſled in his opinion of it, by his theory of the diſeaſe being the offspring of morbific matter. The aſſertion is unfounded, for bleeding in a fit of the gout has no ſuch effect, provided the remedies to be mentioned hereafter are uſed to prevent it. But a fit of the gout is not ſingular in its diſpoſition to recur after being once cured. The rheumatiſm, the pleuriſy, and the intermitting fever are all equally diſpoſed to return when perſons are expoſed to their remote and exciting cauſes, and yet we do not upon this account conſider them as incurable diſeaſes, nor do we abſtain from the uſual remedies which cure them.

The inflammatory or violent ſtate of the gout is ſaid moſt commonly to affect the limbs. But this is far from being the caſe. It frequently makes its firſt attack upon the head, lungs, kidneys, ſtomach, and bowels. The remedies for expelling it from the ſtomach and bowels are generally of a ſtimulating nature. They are as improper in full habits, and in the recent ſtate of the diſeaſe, as cordials are to drive the ſmall-pox from the vitals to the ſkin. Hundreds have been deſtroyed by them. Bleeding in theſe caſes, affords the ſame ſpeedy, and certain relief that it does in removing pain from the ſtomach and bowels

bowels in the firſt ſtage of the yellow fever. Col. Miles owes his life to the loſs of 60 ounces of blood in an attack of the gout in his bowels in the winter of 1795, and Major Butler derived the ſame benefit from the loſs of near 30 ounces, in an attack of the gout in his ſtomach in the ſpring of 1798.

I have ſaid, in the hiſtory of the ſymptoms of the gout, that it ſometimes appeared in the form of a hectic fever. I have preſcribed occaſional bleedings in a caſe of this kind accompanied with a tenſe pulſe, with the happieſt effects. It has confined the diſeaſe for ſeveral years wholly to the blood-veſſels, and it bids fair in time to eradicate it from the ſyſtem.

The ſtate of the pulſe as deſcribed in another place,* ſhould govern the uſe of the lancet in this diſeaſe. Bleeding is required as much in its depreſſed, as in its full and chorded ſtate. Col. Miles's pulſe at the time he ſuffered from the gout in his bowels, was ſcarcely perceptible. It did not riſe till after a ſecond or third bleeding.

Some advantage may be derived from examining the blood. I have once known it to be diſſolved; but for the moſt part I have obſerved it, with Dr. Liſter,

* Medical Inquiries and Obſervations, vol. iv.

Liſter, to be covered with the buffy coat of common inflammation.

The arguments made uſe of in favour of bleeding in the diſeaſes of old people in a former publication, apply with equal force to its uſe in the gout. The inflammatory ſtate of this diſeaſe, frequently occurs in the decline of life, and bleeding is as much indicated in ſuch caſes as in any other inflammatory fever. The late Dr. Chovet died with an inflammation in his liver from gout, in the 86th year of his age. He was twice bled, and his blood each time was covered with a buffy coat.

Where the gout affects the head with obſtinate pain, and appears to be ſeated in the muſcles, cupping gives great relief. This mode of bleeding ſhould be truſted in thoſe caſes only in which the morbid action is confined chiefly to the head, and appears in a feeble ſtate in the reſt of the arterial ſyſtem.

The advantages of bleeding in the gout, when performed under all the circumſtances that have been mentioned, are as follow:

1. It removes or leſſens pain.

2. It prevents thoſe congeſtions and effuſions which produce apoplexy, palſy, pneumonia notha, calculi in the kidneys and bladder, and chalk-ſtones in the hands and feet. The gravel and ſtone are nine times in ten, I believe, the effects of an effuſion of lymph or blood from previous morbid action in the kidneys. If this diſeaſe were narrowly watched, and cured as often as it occurs, by the loſs of blood, we ſhould have but little gravel or ſtone among gouty people. A citizen of Philadelphia died a few years ago in the 96th year of his age, who had been ſubject to the ſtrangury the greateſt part of his life. His only remedy for it was bleeding. He lived free from the gravel and ſtone and died, or rather appeared to fall aſleep in death, from old age. Dr. Haller mentions a ſimilar caſe in his Bibliotheca Medicinæ in which bleeding had the ſame happy effects.

3. It prevents the ſyſtem from wearing itſelf down by fruitleſs pain and ſickneſs, and thereby inducing a prediſpoſition to frequent returns of the diſeaſe.

4. It ſhortens the duration of a fit of gout by throwing it, not into the feet, but out of the ſyſtem, and thus prevents a patient's lying upon his back for two or three months with a writhing face, ſcolding

ſcolding a wife and a family of children, and ſometimes curſing every ſervant that comes near enough to endanger the touch of an inflamed limb. Beſides preventing all this parade of pain and peeviſhneſs, it frequently, when aſſiſted with other remedies to be mentioned preſently, reſtores a man to his buſineſs and ſociety in two or three days, a circumſtance this of great importance in the public, as well as private purſuits of men; for who has not read of the moſt intereſting affairs of nations being neglected or protracted, by the principal agents in them being ſuddenly confined to their beds, or chairs, for weeks or months, by a fit of the gout?

2. A ſecond remedy in the ſtate of the gout which has been mentioned, is PURGING. Sulphur is generally preferred for this purpoſe, but caſtor oil, cream of tartar, ſena, jalap, rhubarb and calomel, may all be uſed with equal ſafety and advantage. The ſtomach and habits of the patient ſhould determine the choice of a ſuitable purge in every caſe. Salts are generally offenſive to the ſtomach. They once brought on a fit of the gout in Dr. Brown.

3. Vomits may be given in all thoſe caſes where bleeding is objected to, or where the pulſe is only moderately active. Mr. Small, in an excellent pa-

per upon the gout, in the 6th volume of the Medical Obſervations and Inquiries, p. 205, containing the hiſtory of his own caſe, tells us that he always took a vomit upon the firſt attack of the gout, and that it never failed of relieving all its ſymptoms. The matter diſcharged by this vomit indicated a morbid ſtate of the liver, for it was always a dark greeniſh bile which was inſoluble in water. A Britiſh lieutenant whoſe misfortunes reduced him to the neceſſity of accepting a bed in the poor-houſe of this city, informed the late Dr. Stuben that he had once been much afflicted with the gout, and that he had upon many occaſions ſtrangled a fit of it by the early uſe of an emetic. Dr. Pye adds his teſtimony to thoſe which have been given in favour of vomits, and ſays further, that they do moſt ſervice when they diſcharge an acid humour from the ſtomach. They appear to act in part by equalizing the divided excitement of the ſyſtem, and in part by diſcharging the contents of the gall-bladder and ſtomach, vitiated by the previous debility of thoſe organs. Care ſhould be taken not to exhibit this remedy where the gout attacks the ſtomach with ſymptoms of inflammation, or where it has a tendency to fix itſelf upon the brain.

4. Nitre

4. NITRE may be given with advantage in cafes of inflammatory action where the ftomach is not affected.

5. A fifth remedy is COOL or COLD AIR. This is as fafe and ufeful in the gout as in any other inflammatory ftate of fever. The affected limbs fhould be kept out of bed, *uncovered*. In this way Mr. Small fays he moderated the pains of the gout in his hands and feet. * I have directed the fame practice with great comfort, as well as advantage to my patients. Even cold water has been applied with good effects to a limb inflamed by the gout. Mr. Blair M'Clenachan taught me the fafety and benefit of this remedy by ufing it upon himfelf without the advice of a phyfician. It inftantly removed his pain, nor was the gout tranflated by it to any other part of his body. Perhaps it would be beft in moft cafes to prefer cool or cold air to cold water. The fafety and advantages of both thefe modes of applying cold to the affected limbs, fhew the impropriety of the common practice of wrapping them in flannel.

6. Diluting liquors, fuch as are prefcribed in common inflammatory fevers, fhould be given in fuch

* Medical Obfervations and Inquiries, vol. vi. p. 201.

ſuch quantities as to diſpoſe to a gentle perſpiration.

7. Abſtinence from wine, ſpirits, and malt liquors, alſo from ſuch aliments as afford much nouriſhment or ſtimulus, ſhould be carefully enjoined. Sago, panada, tapioca, diluted milk with bread, and the pulp of apples, ſummer fruits, tea, coffee, weak chocolate, and bread ſoaked in chicken water or beef tea, ſhould conſtitute the principal diet of patients in this ſtate of the gout.

8. Bliſters are an invaluable remedy in this diſeaſe when uſed at a proper time, that is, after the reduction of the morbid actions in the ſyſtem by previous evacuations. They ſhould be applied to the legs and wriſts in general gout, and to the neck and ſides, when it attacks the head or breaſt. A ſtrangury from the gout, is no objection to their uſe. So far from increaſing this complaint, Dr. Clerk and Dr. Whyt inform us, that they remove it. * But the principal advantage of bliſters is derived from their collecting and concentrating, ſcattered and painful ſenſations, and conveying them out of the ſyſtem, and thus becoming excellent ſubſtitutes for a fit of the gout.

9. Fear

* Phyſical and Literary Eſſays, vol. iii. p. 469.

9. Fear and terror have in ſome inſtances cured a paroxyſm of this diſeaſe. A captain of a Britiſh ſhip of war who had been confined for ſeveral weeks to his cabin, by a ſevere fit of the gout in his feet, was ſuddenly cured by hearing the cry of fire on board his ſhip. This fact was communicated to me by a gentleman who was a witneſs of it. Many ſimilar caſes are upon record in books of medicine. I ſhall in another place inſert an account of one in which the cure effected by a fright, eradicated the diſeaſe from the ſyſtem ſo completely, as ever afterwards to prevent its return.

Thus have I enumerated the remedies which are proper in the gout when it affects the blood-veſſels and viſcera with great morbid action. Moſt of thoſe remedies are alike proper when the morbid actions are ſeated in the muſcular fibres, whether of the bowels or limbs, and whether they produce local pain, or general convulſion; provided they are of a violent nature.

There are ſome remedies under this head of a doubtful nature, on which I ſhall make a few obſervations.

SWEATING has been recommended in this ſtate of the gout. All the objections to it in preference

to

to other modes of depletion, mentioned in another place,* apply againſt its uſe in the inflammatory ſtate of the gout. It is not only leſs ſafe than bleeding, purging, and abſtinence, but it is often an impracticable remedy. The only ſudorific medicine to be truſted in this ſtate of the diſeaſe is the Seneka ſnake-root. It promotes all the ſecretions and excretions, and exerts but a feeble ſtimulus upon the arterial ſyſtem.

Many different preparations of OPIUM have been adviſed in this ſtate of the gout. They are all hurtful if given before the morbid action of the ſyſtem is nearly reduced. It ſhould then be given in ſmall doſes accommodated to the excitability of the ſyſtem.

Applications of various kinds to the affected limbs have been uſed in a fit of the gout, and ſome of them with ſucceſs. The late Dr. Chalmers of South Carolina uſed to meet the pain of the gout as ſoon as it fixed in any of his limbs, with a bliſter, and generally removed it by that means in two or three days. I have imitated this practice in ſeveral caſes, and always with ſucceſs, nor have I ever ſeen the gout thrown upon any of the viſcera by means

* Medical Inquiries and Obſervations, vol. iv.

means of this remedy. Cauſtics have ſometimes been applied to gouty limbs with advantage. The moxa deſcribed, and uſed by Sir William Temple, which is nothing but culinary fire, has often not only given relief to a pained limb, but carried off a fit of the gout in a few hours. Theſe powerful applications may be uſed with equal advantage in thoſe caſes in which the gout by falling upon the head produces coma, or ſymptoms of apoplexy. A large cauſtic to the neck, rouſed Mr. John M. Neſbit from a coma in which he had lain for three days, and thereby appeared to ſave his life. Bliſters, and cataplaſms of muſtard, had been previouſly uſed to different parts of his body, but without the leaſt effect. In caſes of moderate pain, where a bliſter has been objected to, I have ſeen a cabbage leaf afford conſiderable relief. It produces a moiſture upon the part affected, without exciting any pain. An old ſea captain taught me to apply molaſſes to a limb inflamed or pained by the gout. I have frequently adviſed it, and generally with advantage. All volatile and ſtimulating liniments are improper, for they not only endanger a tranſlation of the morbid excitement to the viſcera, but where they have not this effect, they increaſe the pain, and inflammation of the part affected.

The

The ſooner a patient exerciſes his lower limbs by walking, after a fit of the gout, the better. "I made it a conſtant rule (ſays Mr. Small) to walk abroad as ſoon as the inflammatory ſtate of the gout was paſt, and though by ſo doing, I often ſuffered great pain, I am well convinced that the free uſe I now enjoy of my limbs, is chiefly owing to my determined perſeverance in the uſe of that exerciſe; nor am I leſs perſuaded that nine in ten of gouty cripples owe their lameneſs more to indolence and fear of pain, than to the genuine effects of the gout." * Sir William Temple confirms the propriety of Mr. Small's opinion and practice, by an account of an old man who obviated a fit of the gout as often as he felt it coming in his feet, by walking in the open air, and afterwards by going into a warm bed, and having the parts well rubbed where the pain began. "By following this courſe (he ſays) he was never laid up with the gout, and before his death recommended the ſame courſe to his ſon if ever he ſhould fall into that accident." Under a conviction of the ſafety of this practice the ſame author concludes the hiſtory of his own caſe in the following words. "I favoured it [viz. the ſwelling in my feet] all this while more than I needed, upon the common opinion,

* Medical Obſervations and Inquiries, vol. vi. p. 220.

opinion, that walking too much might draw down the humour, which I have ſince had reaſon to conclude a great miſtake, and that if I had walked as much as I could from the firſt day the pain left me, the ſwelling might have left me too in a much leſs time." *

III. I come now to mention the remedies which are proper in that ſtate of the gout in which a *feeble* morbid action takes place in the blood-veſſels and viſcera.

I ſhall begin this head, by remarking, that this ſtate of the gout is for the moſt part created, like the typhus ſtate of fever, by the neglect, or too ſcanty uſe of evacuations in its firſt ſtage. When the prejudices which now prevent the adoption of thoſe remedies in their proper time, are removed, we ſhall hear but little of the low ſtate of the arthritic fever, nor of the numerous diſorders from obſtruction which are produced by the blood-veſſels diſorganizing the viſcera, by repeated and violent attacks of the diſeaſe.

To determine the character of a paroxyſm of gout and the remedies proper to relieve it, the climate,

* Eſſay upon the Cure of the Gout by Moxa, vol. i. folio edition, p. 143 and 141.

mate, the ſeaſon of the year, the conſtitution of the atmoſphere, and the nature of the prevailing epidemic, ſhould be carefully attended to by a phyſician. But his principal dependance ſhould be placed upon the ſtate of the pulſe. If it does not diſcover the marks which indicate bleeding formerly referred to, but is weak, quick and ſoft, the remedies ſhould be ſuch as are calculated to produce a more vigorous, and equable action in the blood-veſſels and viſcera. They are,

1. Opium. It ſhould at firſt be given in ſmall doſes, and afterwards increaſed, as circumſtances may require.

2. Madeira or Sherry wine alone, or diluted with water, or in the form of whey, or rendered more cordial by having any agreeable ſpice infuſed in it. It may be given cold, or warm, according to the taſte of the patient, or the ſtate of his ſtomach. If this medicine be rejected in all the above forms,

3. Porter ſhould be given. It is often retained, when no other liquor will lay upon the ſtomach. I think I once ſaved the life of Mr. Neſbit by this medicine. It checked a vomiting, from the gout, which ſeemed to be the laſt ſymptom of his departing life. If porter fails of giving relief,

4. Ardent

4. Ardent ſpirits ſhould be given, either alone, or in the form of grog, or toddy. Caſes have occurred in which a pint of brandy has been taken in the courſe of an hour with advantage. Great benefit has ſometimes been found from Dr. Warner's tincture, in this ſtate of the gout. As theſe obſervations may fall into the hands of perſons who may not have acceſs to Dr. Warner's book, I ſhall here inſert the receipt for preparing it.

Of raiſons ſliced and ſtoned, half a pound.
Rhubarb, one ounce.
Sena, two drachms.
Coriander and fennel ſeeds, of each one drachm.
Cochineal, ſaffron and liquorice root, each half a drachm.

Infuſe them for ten days in a quart of French brandy, then ſtrain it and add a pint more of brandy to the ingredients, afterwards ſtrain it, and mix both tinctures together. Four table ſpoons full of this cordial are to be taken every hour mixed with an equal quantity of water, until relief be obtained.

Ten drops of laudanum may be added to each doſe in thoſe caſes in which the cordial does not produce its intended effects, in two or three hours. —If all the different forms of ardent ſpirits which have been mentioned fail of giving relief,

From

5. From 30 drops to a tea ſpoonful of *æther* ſhould be given in any agreeable vehicle. Alſo,

6. Volatile alkali. From five to ten grains of this medicine ſhould be given every two hours.

7. Aromatic ſubſtances, ſuch as alſpice, ginger, Virginia ſnake-root, cloves, and mace in the form of teas, have all been uſeful in this ſtate of the gout.

All theſe remedies are indicated in a more eſpecial manner when the gout affects the ſtomach. They are likewiſe proper when it affects the bowels. The laudanum in this caſe ſhould be given by way of glyſter. After the vomiting was checked in Mr. Neſbit by means of porter, he was afflicted with a dull and diſtreſſing pain in his bowels, which was finally removed by two anodyne glyſters injected daily for two or three weeks.

8. Where the gout produces ſpaſmodic or convulſive motions, the OIL OF AMBER may be given with advantage. I once ſaw it remove for a while a convulſive cough from the gout.

9. In caſes where the ſtomach will bear the BARK, it ſhould be given in large and frequent doſes. It does

does the ſame ſervice in this ſtate of gout, that it does in the ſlow or low ſtates of fever from any other cauſe. Where the gout appears in the form of an intermittent, the bark affords the ſame relief that it does in the ſame diſeaſe from autumnal exhalations. Mr. Small found great benefit from it after diſcharging the contents of his ſtomach and bowels by a doſe of tartar emetic. "I do not call (ſays this gentleman) a fit of the gout a paroxyſm, for there are ſeveral paroxyſms in the fit, each of which is uſhered in with a rigor, ſickneſs at ſtomach, and ſubſequent heat. In this the gout bears a reſemblance to an irregular intermittent, at leaſt to a remitting fever, and hence perhaps the efficacy of the bark in removing the gout."*

10. The warm bath is a powerful remedy in exciting a regular and healthy action in the ſanguiferous ſyſtem. Where the patient is too weak to be taken out of bed, and put into a bathing tub, his limbs and body ſhould be wrapped in flannels dipped in warm water. In caſe of a failure of all the above remedies,

11. A SALIVATION ſhould be excited as ſpeedily as poſſible by means of mercury. Dr. Cheyne commends it in high terms. I have once uſed it with ſucceſs

* Medical Obſervations and Inquiries, vol. vi. p. 220.

ſucceſs. The mercury when uſed in this way, brings into action an immenſe maſs of latent excitement, and afterwards diffuſes it equally through every part of the body.

12. Beſides theſe internal remedies, frictions with brandy, and volatile liniment ſhould be uſed to the ſtomach and bowels. Bliſters ſhould be applied to parts in which congeſtion, or pain is ſeated, and ſtimulating cataplaſms ſhould be applied to the lower limbs. The flour of muſtard has been juſtly preferred for this purpoſe. It ſhould be applied to the upper part of the foot.

The reader will perceive in the account I have given of the remedies proper in the feeble ſtate of chronic fever, that they are the ſame which are uſed in the common typhus, or what is called nervous fever. There is no reaſon why they ſhould not be the ſame, for the ſuppoſed two morbid ſtates of the ſyſtem, are but one diſeaſe.

It is agreeable in medical reſearches to be under the direction of principles. They render unneceſſary in many inſtances, the ſlow and expenſive operations of experience, and thus multiply knowledge, by leſſening labor. The ſcience of navigation has reſted upon this baſis, ſince the diſcovery of the load-

ſtone,

ſtone. A mariner who has navigated a ſhip to one diſtant port, is capable of conducting her to every port upon the globe. In like manner, the phyſician who can cure one diſeaſe by a knowledge of its principles, may by the ſame means cure all the diſeaſes of the human body, for their cauſes are the ſame. Judgment is required, only in accommodating the force of remedies, to the force of each diſeaſe. The difference in diſeaſes which ariſes from their ſeats, from age, ſex, habit, ſeaſon and climate, may be known in a ſhort time, and is within the compaſs of very moderate talents.

IV. Were I to enumerate all the local ſymptoms of gout which occur without fever, and the remedies that are proper to relieve them, I ſhould be led into a tedious digreſſion. The reader muſt conſult practical books for an account of them. I ſhall only mention the remedies for a few of them.

The theory of the gout which has been delivered, will enable us to underſtand the reaſon why a diſeaſe which properly belongs to the whole ſyſtem, ſhould at any time be accompanied only with local morbid affection. The whole body is an unit, and hence morbid impreſſions which are reſiſted by ſound parts, are propagated to ſuch as are weak, where they excite thoſe morbid actions we call diſeaſe.

The HEAD-ACH is a diſtreſſing ſymptom of the gout. It yields to depleting or tonic remedies according to the degree of morbid action which accompanies it. I have heard an inſtance of an old man who was cured of an obſtinate head-ach by throwing aſide his night cap, and ſleeping with his bare-head expoſed to the night air. The diſeaſe in this caſe was probably attended with great morbid action. In this ſtate of the veſſels of the brain, cupping, cold applications to the head, purges, a temperate diet, and bliſters behind the ears, are all proper remedies, and ſhould be uſed together, or in ſucceſſion, as the nature of the diſeaſe may require. Many perſons have been cured of the ſame complaint by ſleeping in woollen night caps. The morbid action in theſe caſes is always of a feeble nature. With this remedy, tonics, particularly the bark and cold bath, will be proper. I have once known a chronic gouty pain in the head, cured by an iſſue in the arm, after pounds of bark, and many other tonic remedies had been taken to no purpoſe.

The ophthalmia from gout ſhould be treated with the uſual remedies for that diſeaſe when it ariſes from other cauſes, with the addition of ſuch local applications to other and diſtant parts of the body, as may abſtract the gouty action from the eyes.

Dull

Dull but conſtant pains in the limbs yield to frictions, volatile liniments, muſlin and woollen worn next to the ſkin, electricity, a ſalivation, and the warm and cold bath. A gentleman who was afflicted with a pain of this kind for three years and an half in one of his arms, informed me that he had been cured by wearing a woollen ſtocking that had been boiled with ſulphur in water, for two weeks upon the affected limb. He had previouſly worn flannel upon it, but without receiving any benefit from it. I have known wool and cotton finely carded and made into ſmall mats, worn upon the hips when affected by gout, with great advantage. In obſtinate ſciatic pains without fever or inflammation, Dr. Pitcairn's remedy publiſhed by Dr. Cheyne has performed many cures. It conſiſts in taking from one to four tea-ſpoonfuls of the fine ſpirit of turpentine every morning for a week or ten days in three times the quantity of honey, and afterwards in drinking a large quantity of ſack whey to ſettle it on the ſtomach, and carry it into the blood. An anodyne ſhould be taken every night after taking this medicine.

A gouty diarrhœa ſhould be treated with the uſual aſtringent medicines of the ſhops. Bliſters to the wriſts and ankles, alſo a ſalivation, have often cured it. I have heard of its being checked,

after continuing for many years, by the patient eating large quantities of alſpice, which he carried looſe in his pocket for this purpoſe.

The angina pectoris which I have ſaid is a ſymptom of the gout, generally comes on with fulneſs and tenſion in the pulſe. After theſe are reduced by two or three bleedings, mineral tonics ſeldom fail of giving relief.

Spaſms in the ſtomach, and pains in the bowels often ſeize gouty people in the midſt of buſineſs or pleaſure, or in the middle of the night. My conſtant preſcription for theſe complaints is ten drops of laudanum every half hour till relief be obtained. If this medicine be taken in the forming ſtate of theſe pains, a ſingle doſe generally removes the diſeaſe. It is preferable to ſpiced wine and ſpirits, inaſmuch as it acts quicker, and leaves no diſpoſition to contract a love for it when it is not required to eaſe pain.

The pain in the rectum which has been deſcribed, yields to the common remedies for the piles. Cold water applied to the part, generally gives immediate relief.

The

The itching in the anus which I have ſuppoſed to be a ſymptom of gout, has yielded in one inſtance that has come within my knowledge to mercurial ointment applied to the part affected. Dr. Lettſom recommends fomenting the part with a decoction of poppy heads and hemlock, and adviſes lenient purges and a vegetable diet as a radical cure for the diſeaſe. *

For the itching in the vagina, I have found a ſolution of the ſugar of lead in water to be an excellent palliative application. Dr. Lettſom recommends as a cure for it, the uſe of bark in delicate habits, and occaſional bleeding, with a light and moderate diet, if it occur about the time of the ceſſation of the menſes.

Obſtinate cutaneous eruptions which are the effects of gout, have been cured by gentle phyſic, a ſuitable diet, iſſues, and applications of the unguentum citrinum to the parts affected.

The arthritic gonorrhœa ſhould be treated with the ſame remedies as a gonorrhœa from any other cauſe.

In the treatment of all the local ſymptoms that have been enumerated, it will be of great conſequence

* Medical Memoirs, vol. iii.

quence to inquire before we attempt to cure them, whether they have not ſucceeded general gout, and thereby relieved the ſyſtem from its effects in parts eſſential to life. If this has been the caſe, the cure of them, ſhould be undertaken with caution, and the danger of a local diſeaſe being exchanged for a general one, ſhould be obviated by remedies that are calculated to eradicate the gouty diatheſis altogether from the ſyſtem. The means for this purpoſe, agreeably to our order, come next under our conſideration. Before I enter upon this head, I ſhall premiſe, that I do not admit of the ſeeds of the gout remaining in the body to be eliminated by art after a complete termination of one of its paroxyſms, any more than I admit of the ſeeds of a pleuriſy or intermitting fever remaining in the body, after they have been cured by blood-letting or bark. A prediſpoſition only remains in the ſyſtem to a return of the gout, from its uſual remote and exciting cauſes. The contrary idea took its riſe in thoſe ages of medicine in which morbific matter was ſuppoſed to be the proximate cauſe of the gout, but it has unfortunately continued ſince the rejection of that theory. Thus in many caſes, we ſee wrong habits continue long after the principles have been diſcarded, from which they were derived.

I have known ſeveral inſtances in which art, and I have heard and read of others in which accidental ſuffering from abſtinence, pain and terror, have been the happy means of overcoming a prediſpoſition to the gout. A gentleman from one of the Weſt India iſlands who had been for many years afflicted with the gout, was perfectly cured of it by living a year or two upon the temperate diet of the jail in this city into which he was thrown for debt by one of his creditors. A large hæmorrhage from the foot inflamed and ſwelled by the gout, accidentally produced by a penknife which fell upon it, effected in an Iriſh gentleman a laſting cure of the diſeaſe. Hildanus mentions the hiſtory of a gentleman whom he knew intimately, who was radically cured of a gout with which he had been long afflicted, by the extreme bodily pain he ſuffered innocently from torture in the Canton of Berne. He lived to be an old man, and ever afterwards enjoyed good health. * The following letter from my brother contains the hiſtory of a caſe in which terror ſuddenly eradicated the gout from the ſyſtem.

" *Reading*,

* Obſervat. Chirurg. Cent. 1. Obſ. 79.

" *Reading, July 27th*, 1797.

" DEAR BROTHER,

" WHEN I had the pleaſure of ſeeing you laſt week, I mentioned an extraordinary cure of the gout in this town, by means of a *fright*. In compliance with your requeſt, I now ſend an exact narration of the facts.

" Peter Fether the perſon cured, is now alive, a houſeholder in Reading, ſeventy-three years of age, a native of Germany, and a very hearty man. The firſt fit of the gout he ever had, was about the year 1773; and from that time till 1785, he had a regular attack in the ſpring of every year. His feet, hands, and elbows, were much ſwollen and enflamed—the fits laſted long and were excruciating. In particular the laſt fit in 1785 was ſo ſevere, as to induce an apprehenſion, that it would inevitably carry him off—when he was ſuddenly relieved by the following accident.

" As he lay in a ſmall back room adjoining the yard, it happened that one of his ſons in turning a waggon and horſes, drove the tongue of the waggon with ſuch force againſt the window near which the old man lay ſtretched on a bed, as to beat in the ſaſh of the window, and to ſcatter the pieces

pieces of broken glaſs all about him. To ſuch a degree was he alarmed by the noiſe and violence, that he inſtantly leaped out of bed, forgot that he had ever uſed crutches, and eagerly inquired what was the matter. His wife hearing the uproar, ran into the room, where to her aſtoniſhment, ſhe found her huſband on his feet, bawling againſt the author of the miſchief, with the moſt paſſionate vehemence.——From *this* moment, he has been entirely exempt from the gout, has never had the ſlighteſt touch of it—and *now* enjoys perfect health, has a good appetite, and ſays he was never heartier in his life. This is probably the more remarkable, when I add, that he has always been uſed to the hard work of a farm; and *ſince* the year 1785 has frequently mowed in his own meadow, which I underſtand is low and wet. I am well informed, in his mode of living, he has been temperate, occaſionally indulging in a glaſs of wine, after the manner of the German farmers, but not to exceſs.

" To you, who have been long accuſtomed to explore diſeaſes, I leave the taſk of developing the principles, on which this myſterious reſtoration from the loweſt decrepitude and bodily wretchedneſs, to a ſtate of perfect health, has been accompliſhed. I well know that tooth-aches, head-aches, hiccoughs, &c. are often removed by the ſudden impreſſion

impreſſion of fear, and that they return again. But to ſee a debilitated gouty frame inſtantly reſtored to vigour—to ſee the whole ſyſtem in a moment, (as it were) undergo a perfect and entire change, and the moſt inveterate and incurable diſorder, *radically* expelled; is ſurely a *different* thing, and muſt be acknowledged a very ſingular and marvellous event. If an old man languiſhing under diſeaſe and infirmity, had *died* of mere fright, no body would have been ſurpriſed at it—But that he ſhould be abſolutely cured, and his conſtitution renovated by it, is a moſt extraordinary fact; which, while I am compelled to believe by unexceptionable evidence, I am totally at a loſs to account for.

I am your ſincerely
affectionate brother,
JACOB RUSH."

Theſe facts, and many ſimilar ones which might be mentioned, afford ample encouragement to proceed in enumerating the means which are proper to prevent the recurrence of the gout, or in other words to eradicate it from the ſyſtem.

V. I ſhall firſt mention the means of preventing the return of that ſtate of the diſeaſe which is accompanied with *violent* action, and afterwards take notice of the means of preventing the return of that

that ſtate of it, in which a *feeble* morbid action takes place in the blood-veſſels. The means for this purpoſe conſiſt in avoiding all the remote, exciting, and prediſpoſing cauſes of the gout which have been mentioned. I ſhall ſay a few words upon the moſt important of them, in the order that has been propoſed.

I. The firſt remedy for obviating the *violent* ſtate of gout is,

1. Temperance. This ſhould be regulated in its degrees by the age, habits and conſtitution of the patient. A diet conſiſting wholly of milk, vegetables, and ſimple water, has been found neceſſary to prevent the recurrence of the gout in ſome caſes. But in general, fiſh, eggs, the white meats and weak broths may be taken in ſmall quantities once a day, with milk and vegetables at other times. A little ſalted meat which affords leſs nouriſhment than freſh, may be eaten occaſionally. It imparts vigour to the ſtomach, and prevents dyſpepſia from a diet conſiſting chiefly of vegetables. The low, and acid wines ſhould be avoided, but weak Madeira or Sherry wine and water, or ſmall beer may be drunken at meals. The latter liquor, was the favourite drink of Dr. Sydenham in his fits of the gout. Strong tea, and coffee ſhould not be taſted,

taſted, where there is reaſon to believe the habitual uſe of them has contributed to bring on the diſeaſe.

From the diſpoſition of the gout to return in the ſpring, and autumn, greater degrees of abſtinence in eating and drinking will be neceſſary at thoſe ſeaſons than at any other time.—In perſons above fifty years of age, this abſtemious mode of living, ſhould be commenced with great caution. It has ſometimes when entered upon ſuddenly, and carried to its utmoſt extent, induced fits of the gout, and precipitated death. In ſuch perſons the abſtractions from their uſual diet ſhould be ſmall, and our dependance ſhould be placed upon other means to prevent a return of the diſeaſe.

2. Moderate labour and gentle exerciſe, have frequently removed that debility and vibratility in the blood-veſſels, on which a prediſpoſition to the gout depends. Hundreds of perſons who have been reduced by misfortunes, to the neceſſity of working for their daily bread, have thrown off a gouty diatheſis derived from their parents, or acquired by perſonal acts of folly and intemperance. The employments of agriculture afford the moſt wholeſome labour; and walking, the moſt ſalutary exerciſe. To be uſeful, they ſhould be moderate.

rate. The extremes of indolence, and bodily activity, meet in a point. They both induce debility, which predispoſes to a recurrence of a fit of the gout. Riding in a carriage, and on horſe-back are leſs proper as a means of preventing the diſeaſe, than walking. Their action upon the body is partial. The lower limbs derive no benefit from it, and on theſe, the violent ſtate of gout generally makes its firſt attack. In England many domeſtic exerciſes have been contrived for gouty people, ſuch as ſhuttle-cock, bullets, the chamber-horſe and the like, but they are all trifling in their effects, compared with labour and exerciſe in the open air. The efficacy of the former of thoſe prophylactic remedies will appear in a ſtrong point of light when we conſider, how much the operation of the remote and exciting cauſes of the gout which act more or leſs upon perſons in the humbleſt ranks of ſociety, are conſtantly counteracted in their effects, by the daily labour which is neceſſary for their ſubſiſtence.

3. To prevent the recurrence of the gout, cold ſhould be carefully avoided, more eſpecially when it is combined with moiſture. Flannel ſhould be worn next to the ſkin in winter, and muſlin in ſummer, in order to keep up a ſteady and uniform perſpiration. Fleecy hoſiery ſhould be worn in cold weather

weather upon the breaſt and knees, and the feet ſhould be kept conſtantly warm and dry by means of ſocks, and cork-ſoaled ſhoes. It was by wetting his feet, by ſtanding two or three hours upon the damp ground, that Col. Miles produced the gout in his ſtomach and bowels which had nearly deſtroyed him in the year 1795.

4. Great moderation ſhould be uſed by perſons who are ſubject to the gout in the exerciſe of their underſtandings and paſſions. Intenſe ſtudy, fear, terror, anger, and even joy, have often excited the diſeaſe into action. It has been obſerved, that the political and military paſſions act with more force upon the ſyſtem, than thoſe which are of a ſocial and domeſtic nature; hence generals and ſtateſmen are ſo often afflicted with the gout, and that too as was hinted in another place, in moments the moſt critical and important to the welfare of a nation. The combination of the exerciſes of the underſtanding, and the paſſion of avarice in gaming, have often produced an attack of this diſeaſe.

Theſe facts ſhew the neceſſity of gouty people ſubjecting their minds, with all their operations, to the government of reaſon and religion. The underſtanding ſhould be exerciſed only upon light and pleaſant ſubjects. No ſtudy ſhould ever be purſued

ſued till it brings on fatigue; and above all things, midnight and even late ſtudies ſhould be ſtrictly avoided. A gouty man ſhould always be in bed at an early hour. This advice has the ſanction of Dr. Sydenham's name, and experience proves its efficacy in all chronic diſeaſes.

5. The venereal appetite ſhould be indulged with moderation, and

6. Coſtiveneſs ſhould be prevented by all perſons who wiſh to eſcape a return of violent fits of the gout. Sulphur is an excellent remedy for this purpoſe. Dr. Cheyne commends it in high terms. His words are, "Sulphur is one of the beſt remedies in the intervals of the gout. In the whole extent of the materia medica, I know not a more ſafe and active medicine." * Two caſes have come within my knowledge, in which it has kept off fits of the gout for ſeveral years, in perſons who had been accuſtomed to have them once or twice a year. Rhubarb in ſmall quantities chewed, or in the form of pills, may be taken to obviate coſtiveneſs, by perſons who object to the habitual uſe of ſulphur. Dr. Cheyne who is laviſh in his praiſes of that medicine as a gentle laxative, ſays, he "knew a noble lord

* Eſſay on the Nature, and True Method of Treating the Gout, p. 36.

lord of great worth and much gout, who, by taking from the hands of a quack, a drachm of rhubarb tinged with cochineal to diſguiſe it, every morning for ſix weeks, lived in health for four years after, without any ſymptom of it." *

I have ſaid that abſtinence ſhould be enjoined with more ſtrictneſs in the ſpring and autumn, than at any other time, to prevent a return of the gout. From the influence of the weather at thoſe ſeaſons in exciting febrile actions in the ſyſtem, the loſs of a pint of blood will be uſeful in ſome caſes for the ſame purpoſe. It will be the more neceſſary if the gout has not paid its habitual viſits to the ſyſtem. The late Dr. Gregory had been accuſtomed to an attack of the gout every ſpring. Two ſeaſons paſſed away without his feeling any ſymptoms of it. He began to flatter himſelf with a hope that the prediſpoſition to the diſeaſe had left him. Soon afterwards he died ſuddenly of an apoplexy. The loſs of a few ounces of blood at the uſual time in which the gout affected him, would probably have protracted his life for many years. In the year 1796, in viſiting a patient, I was accidentally introduced into a room where a gentleman from the Delaware ſtate had been lying on

* P. 30.

on his back for near ſix weeks with an acute fit of the gout. He gave me a hiſtory of his ſufferings. His pulſe was full and tenſe, and his whole body was covered with ſweat from the intenſity of his pain. He had not had his bowels opened for ten days. I adviſed purging and bleeding in his caſe. The very names of thoſe remedies ſtartled him, for he had adopted the opinion of the ſalutary nature of a fit of the gout, and therefore hugged his chains. After explaining the reaſon of my preſcriptions, he informed me in ſupport of them, that he had eſcaped the gout but two years in twenty, and that in one of theſe two years he had been bled for a fall from his horſe, and in the other, his body had been reduced by a nervous fever, previouſly to the time of the annual viſit of his gout.

An epitome of all that has been ſaid upon the means of preventing a return of the gout, may be delivered in a few words. A man who has had one fit of it, ſhould conſider himſelf in the ſame ſtate as a man who has received the contagion of a malignant fever into his blood. He ſhould treat his body as if it were made of glaſs. By this means he will probably prevent during his life, the re-excitement of the diſeaſe.

Are ISSUES proper to prevent the return of the violent ſtate of gout? I have heard of an inſtance of an iſſue in the leg having been effectual for this purpoſe; but if the remedies before mentioned be uſed in the manner that has been directed, ſo unpleaſant a remedy can ſeldom be neceſſary.

Are BITTERS proper to prevent a return of this ſtate of gout? It will be a ſufficient anſwer to this queſtion to mention, that the Duke of Portland's powder, which is compoſed of bitter ingredients, excited a fatal gout in many people who uſed it for that purpoſe. I ſhould as ſoon expect to ſee gold produced by the operations of fire upon copper or lead, as expect to ſee the gout prevented or cured by any medicine that acted upon the ſyſtem without the aid of more or leſs of the remedies that have been mentioned.

II. We come now, in the laſt place, to mention the remedies which are proper to prevent a return of that ſtate of gout which is attended with a *feeble* morbid action in the blood-veſſels and viſcera.

This ſtate of gout generally occurs in the evening of life, and in perſons of delicate habits or in ſuch as have had their conſtitutions worn down by repeated attacks of the diſeaſe.

The

The remedies to prevent it are,

1. A gently ſtimulating diet conſiſting of animal food well cooked, with ſound old Madeira or Sherry wine, or weak ſpirit and water. Salted, and even ſmoaked meat may be taken in this ſtate of the ſyſtem with advantage. It is an agreeable tonic, and is leſs diſpoſed to create plethora than freſh meat. Pickles and vinegar ſhould ſeldom be taſted. They diſpoſe to gouty ſpaſms in the ſtomach and bowels. Long intervals between meals ſhould be carefully avoided. The ſtomach when overſtretched or empty, is always alike prediſpoſed to diſeaſe. There are caſes in which the evils of inanition in the ſtomach will be prevented, by a gouty patient eating in the middle of the night.

2. The uſe of chalybeate medicines. Theſe are more ſafe when uſed habitually, than bitters. I have long been in the practice of giving the different preparations of iron in large doſes in chronic diſeaſes, and in that ſtate of debility which diſpoſes to them. A lady of a weak conſtitution informed Dr. Cheyne "that ſhe once aſked Dr. Sydenham how long ſhe might ſafely take ſteel. His anſwer was, that ſhe might take it for thirty years, and then begin again if ſhe continued ill."*

Water

* Eſſay on the nature, and true method of treating the gout, p. 69.

Water impregnated with iron, either by nature, or art, may be taken inſtead of the ſolid forms of the metal. It will be more uſeful if it be drunken in a place where patients will have the benefit of country air.

3. The habitual uſe of the volatile tincture of gum guaiacum, and of other cordial, and gently ſtimulating medicines. A clove of garlic taken once or twice a day, has been found uſeful in debilitated habits prediſpoſed to the gout. It poſſeſſes a wonderful power in bringing latent excitement into action. It moreover acts agreeably upon the nervous ſyſtem.

Mr. Small found great benefit from breakfaſting upon a tea made of half a drachm of ginger cut into ſmall ſlices, in preventing occaſional attacks of the gout in his ſtomach. The root of the ſaſſafras of our country might probably be uſed with advantage for the ſame purpoſe.—Aurelian ſpeaks of certain remedies for the gout which he calls "annalia."* The above medicines belong to this claſs. To be effectual, they ſhould be perſiſted in, not for one year only, but for many years.

4. Warmth

* Morborum Chronicorum. Lib. v. Cap. 2.

4. Warmth uniformly applied, by means of ſuitable dreſſes, and fitting rooms, to every part of the body.

5. The warm bath in winter, and the temperate, or cold bath in ſummer.

6. Exerciſe. This may be in a carriage, or on horſeback. The viſcera being debilitated in this ſtate of prediſpoſition to the gout, are ſtrengthened in a peculiar manner by the gentle motion of a horſe. Where this or other modes of paſſive exerciſe cannot be had, frictions to the limbs and body ſhould be uſed every day.

7. Coſtiveneſs ſhould be avoided by taking occaſionally one or two table ſpoons full of Dr. Warner's purging tincture prepared by infuſing rhubarb, orange peel, and caraway ſeeds of each an ounce for three days in a quart of Madeira, or any other white wine. If this medicine be ineffectual for opening the bowels, rhubarb may be taken in the manner formerly mentioned.

8. The underſtanding and paſſions ſhould be conſtantly employed in agreeable ſtudies and purſuits. Fatigue of mind and body, ſhould be carefully avoided.

9. A warm climate often protracts life in perſons ſubject to this ſtate of gout. The citizens of Rome who had worn down their conſtitutions by intemperance, added many years to their lives, by migrating to Naples, and enjoying there in a warmer ſun, the pure air of the Mediterranean, and Sir William Temple ſays the Portugueſe obtain the ſame benefit from tranſporting themſelves to the Braſils, after medicine and diet ceaſe to impart vigor to their conſtitutions in their native country.

Thus have I enumerated the principal remedies for curing and preventing the gout. Moſt of them are to be met with in books of medicine, but they have been adminiſtered by phyſicians, or taken by patients with ſo little regard to the different ſtates of the ſyſtem, that they have in many inſtances done more harm than good. Solomon places all wiſdom in the management of human affairs, in finding out the proper times for performing certain actions. Skill in medicine conſiſts in an eminent degree in timing remedies. There is a time to bleed, and a time to withhold the lancet. There is a time to give phyſic, and a time to truſt to the operations of nature. There is a time to eat meat, and there is a time to abſtain from it. There is a time to give tonic medicines, and a time to refrain from them. In a word, the cure of the gout depends

pends wholly upon two things, viz. proper remedies, in their proper times, and places.

I ſhall take leave of this diſeaſe, by comparing it to a deep and dreary cave in a new country, in which ferocious beaſts, and venomous reptiles with numerous ghoſts and hobgobblins, are ſaid to reſide. The neighbours point at the entrance of this cave with horror, and tell of the many ravages that have been committed upon their domeſtic animals, by the cruel tenants which inhabit it. At length a ſchool-boy careleſs of his ſafety, ventures to enter this ſubterraneous cavern, when! to his great delight, he finds nothing in it but the ſame kind of ſtones and water he left behind him upon the ſurface of the earth. In like manner, I have found no other principles neceſſary to explain the cauſe of the gout, and no other remedies neceſſary to cure it, than ſuch as are admitted in explaining the cauſes, and in preſcribing, for the moſt ſimple and common diſeaſes.

OBSERVATIONS

UPON THE

NATURE AND CURE

OF THE

HYDROPHOBIA.

OBSERVATIONS, &c.

IN entering upon the conſideration of this formidable diſeaſe, I feel myſelf under an involuntary impreſſion ſomewhat like that which was produced by the advice the king of Syria gave to his captains when he was conducting them to battle. "Fight not with ſmall, or great; ſave only with the king of Iſrael."*—In whatever light we contemplate the hydrophobia, it may be conſidered as pre-eminent in power and mortality, over all other diſeaſes.

It is now many years ſince the diſtreſs, and horror

 excited

* Chron. ii. chap. xviii. 30.

excited by it, both in patients and their friends, led me with great ſolicitude to inveſtigate its nature. I have at length ſatisfied myſelf with a theory of it which I hope will lead to a rational, and ſucceſsful mode of treating it.

For a hiſtory of the ſymptoms of the diſeaſe, and many intereſting facts connected with it, I beg leave to refer the reader to Dr. Meaſe's learned and ingenious inaugural diſſertation publiſhed in the year 1792.

The remote and exciting cauſes of the hydrophobia are as follow.

1. The bite of a rabid animal. Wolves, foxes, cats, as well as dogs impart the diſeaſe. It has been ſaid that blood muſt be drawn in order to produce it, but I have heard of a caſe in Lancaſter county in Pennſylvania, in which a ſevere contuſion, by the teeth of the rabid animal, without the effuſion of a drop of red blood, excited the diſeaſe. Happily for mankind it cannot be communicated by blood, or ſaliva falling upon ſound parts of the body. In Maryland the negroes eat with ſafety the fleſh of hogs that have periſhed from the bite of mad dogs, and I have heard of the milk of a cow at Cheſtertown in the ſame ſtate, having been uſed without any inconvenience

venience by a whole family on the very day in which ſhe was affected by this diſeaſe, and which killed her in a few hours. Dr. Baumgarten confirms theſe facts by ſaying that "the fleſh and milk of rabid animals have been eaten with perfect impunity."*

In the following obſervations I ſhall confine myſelf chiefly to the treatment of the hydrophobia which ariſes from the bite of a rabid animal, but I ſhall add in this place a ſhort account of all its other cauſes.

2. Cold night air. Dr. Arthaud late preſident of the ſociety of Philadelphians in St. Domingo, has publiſhed ſeveral caſes in which it was produced in negroes by ſleeping all night in the open air.

3. A wound in a tendinous part.

4. Putrid and impure animal food.

5. Worms. 6. Eating beach nuts. 7. Great thirſt. 8. Fear. 9. Involuntary aſſociation of ideas. 10. Hyſteria. 11. The tetanus. 12. The hydrocephalus. Of the preſence of hydrophobia in the hydrocephalic ſtate of fever, there have been ſeveral inſtances in Philadelphia. 13. The typhus fever.

Dr.

* Medical Commentaries, Philadelphia edition, vol. 7. p. 409.

Dr. Trotter mentions the hydrophobia as a ſymptom which frequently occurred in the typhus ſtate of fever in the Britiſh navy.* It is taken notice of likewiſe in a putrid fever by Dr. Coſte.† Vanſwieten deſcribes a caſe of it which ſucceeded a dyſentery,‡ and Dr. Griffitts obſerved it in a high degree in a young Lady who died of the yellow fever in 1793.

The dread of water, from which this diſeaſe derives its name, has five diſtinct grades. 1. It cannot be drunken. 2. It cannot be touched. 3. The ſound of it in pouring from one veſſel to another, 4. the ſight of it, and 5. even the naming of it, cannot be borne, without exciting convulſions. But this ſymptom is not an univerſal one. Dr. Mead mentions three caſes in which there was no dread of water in perſons who received the diſeaſe from the bite of a rabid animal. It is unfortunate for this diſeaſe as well as many others, that a ſingle ſymptom ſhould impoſe names upon them: In the preſent inſtance, it has done great harm, by fixing the attention of phyſicians ſo excluſively upon the dread of water, which occurs in it, that they have in a great meaſure overlooked every other circumſtance which belongs

* Medicina Nautica, p. 301.

† Medical Commentaries, Dobſon's edition, vol. ii. p. 476.

‡ Vol. xi. p. 144.

belongs to the diſeaſe. The theory of the hydrophobia which an examination of its cauſes, ſymptoms, and accidental cures with all the induſtry I was capable of, has led me to adopt is, that it is a MALIGNANT STATE OF FEVER. My reaſons for this opinion are as follow.

1. The diſeaſe in all rabid animals is a fever. This is obvious in dogs who are moſt ſubject to it. It is induced in them by the uſual cauſes of fever, ſuch as ſcanty or putrid aliment,* extreme cold, and the ſudden action of heat upon their bodies. Proofs of its being derived from each of the above cauſes, are to be met with in moſt of the authors who have written upon it. The animal matters which are rendered morbid by the action of the above cauſes upon them, are determined to the ſaliva, in which a change ſeems to be induced, ſimilar to that which takes place in the perſpirable matter of the human ſpecies from the operation of ſimilar cauſes upon it. This matter it is well known is the remote cauſe of the jail fever and the plague. No wonder the ſaliva of a dog ſhould produce a diſeaſe

* "Animal food in a ſtate of putridity, is amongſt the moſt frequent cauſes of canine madneſs."

"Canine madneſs chiefly ariſes from the exceſſive number of ill-kept and ill-fed dogs."

YOUNG'S ANNALS, vol. xvii. p. 561.

diſeaſe of the ſame kind, after being vitiated by the ſame cauſes, and thereby diſpoſed to produce the ſame effects. 2. The diſeaſe called canine madneſs, prevails occaſionally among dogs at thoſe times in which malignant fevers are epidemic. This will not ſurpriſe thoſe perſons who have been accuſtomed to obſerve the prevalence of the influenza and bilious fevers among other domeſtic animals at a time when they are epidemic among the human ſpecies. Dr. James and Sir Theodore Mayerne aſſert, that the diſeaſe among dogs is propagated by contagion. Dr. James ſays that it has been communicated by the miaſmata left by them in a kennel. I believe this to be poſſible, for the analogy of the hydrophobia with the ſmall pox, in ſo many particulars, favours the idea that it may be propagated as well through the medium of the air, as by the mixture of the ſaliva of the diſeaſed dog with the blood. 3. Dogs when they are ſaid to be mad, exhibit the uſual ſymptoms of fever, ſuch as a want of appetite, great heat, a dull, fierce, red, or watery eye, indiſpoſition to motion, ſleepineſs, delirium, and madneſs. The ſymptom of madneſs is far from being univerſal, and hence many dogs are diſeaſed and die with this malignant fever, that are inoffenſive, and inſtead of biting, continue to fawn upon their maſters. Nor is the diſpoſition of the fever to communicate itſelf by infection univerſal among dogs

dogs any more than the ſame fever in the human ſpecies, and this I ſuppoſe to be one reaſon why many people are bitten by what are called mad dogs, who never ſuffer any inconvenience from it. 4. A diſſection of a dog, by Dr. Cooper, that died with this fever, exhibited all the uſual marks of inflammation and effuſion which take place in common malignant fevers. I ſhall in another place mention a fifth argument in favour of the diſeaſe in dogs being a malignant fever, from the efficacy of one of the moſt powerful remedies in that ſtate of fever, having cured it in two inſtances.

II. The diſeaſe produced in the human ſpecies by the bite of a rabid animal is a *malignant* fever. This appears firſt from its ſymptoms. Theſe, as recorded by Aurelian, Mead, Fothergill, Plummer, Arnold, Baumgarten, and Morgagni, are chills, great heat, thirſt, naufea, a burning ſenſation in the ſtomach, vomiting, coſtiveneſs—a ſmall, quick, tenſe, irregular, intermitting, natural, or ſlow pulſe—a cool ſkin, great ſenſibility to cold air, partial cold and clammy ſweats on the hands, or ſweats accompanied with a warm ſkin diffuſed all over the body, difficulty of breathing, ſighing, reſtleſſneſs, hiccup, giddineſs, head-ache, delirium, coma, falſe viſion, dilatation of the pupils, dulneſs of ſight, blindneſs, glandular ſwellings, heat of urine, priapiſm, palpitation

tation of the heart, and convulſions.—I know that there are caſes of hydrophobia upon record in which there is ſaid to be a total abſence of fever. The ſame thing has been ſaid of the plague. In both caſes the ſuppoſed abſence of fever is the effect of ſtimulus acting upon the blood-veſſels with ſo much force as to ſuſpend morbid action in them. By abſtracting a part of this ſtimulus, a fever is excited which ſoon diſcovers itſelf in the pulſe and on the ſkin, and frequently in pains in every part of the body. The dread of water, and the great ſenſibility of the ſyſtem to cold air, are ſaid to give a ſpecific character to the hydrophobia; but the former ſymptom, it has been often ſeen, occurs in diſeaſes from other cauſes, and the latter has been frequently obſerved in the yellow fever. It is no more extraordinary that a fever excited by the bite of a rabid animal ſhould excite a dread of water, than that fevers from other cauſes ſhould produce averſion from certain aliments, from light, and from ſounds of all kinds; nor is it any more a departure from the known laws of ſtimulants, that the ſaliva of a mad dog ſhould affect the fauces, than that mercury ſhould affect the ſalivary glands. Both ſtimuli appear to act in a ſpecific manner.

2. The hydrophobia partakes of the character of a malignant fever in appearing at different intervals

tervals from the time in which the infection is received into the body. Theſe intervals are from one day to five or ſix months. The ſmall pox ſhews itſelf in intervals from 8 to 20 days, and the plague and yellow fever from the moment in which the contagion is inhaled, to nearly the ſame diſtance of time. This latitude in the periods at which infectious and contagious matters are brought into action in the body, muſt be reſolved into the influence which the ſeaſon of the year, the habits of the patients, and the paſſion of fear have upon them.

Where the interval between the time of being bitten, and the appearance of a dread of water, exceeds five or ſix months, it is probable it may be occaſioned by a diſeaſe derived from another cauſe. Such a perſon is prediſpoſed in common with other people to all the diſeaſes of which the hydrophobia is a ſymptom. The recollection of the poiſonous wound he has received, and its uſual conſequences, is ſeldom abſent from his mind for months or years. A fever, or an affection of his nerves from their moſt common cauſes, cannot fail of exciting in him apprehenſions of the diſeaſe which uſually follows the accident to which he has been expoſed. His fears are then let looſe upon his ſyſtem, and produce in a ſhort time a dread of water

water which appears to be wholly unconnected with the bite of a rabid animal. Similar inſtances of the effects of fear upon the human body are to be met with in books of medicine. The pains produced by fear acting upon the imagination in ſuppoſed venereal infections, are as real and ſevere as they are in the worſt ſtate of that diſeaſe.

3. Blood drawn in the hydrophobia exhibits the ſame appearances which have been remarked in malignant fevers. In Mr. Bellamy, the gentleman whoſe caſe is ſo minutely related by Dr. Fothergill, the blood diſcovered with "ſlight traces of ſize, *ſerum* remarkably *yellow*." It was uncommonly ſizy in a boy of Mr. George Oakley's whom I ſaw, and bled for the firſt time, on the fourth day of his diſeaſe in the beginning of the year 1797. His pulſe imparted to the fingers the ſame kind of quick and tenſe ſtroke which is common in the open forms of the yellow fever. He died in convulſions the next day. He had been bitten by a mad dog on one of his temples, three weeks before he diſcovered any ſigns of indiſpoſition.

4. The hydrophobia accords exactly with malignant fevers in its duration. It generally terminates in death, according to its violence, and the habit of the patient on the firſt, ſecond, third, fourth

or

or fifth day, from the time of its attack, and with the ſame ſymptoms which attend the laſt ſtage of malignant fevers.

5. The body after death, from the hydrophobia, putrefies with the ſame rapidity, that it does after death from a malignant fever in which no depletion has been uſed.

6. Diſſections of bodies which have died of the hydrophobia, exhibit the ſame appearances which are obſerved in the bodies of perſons who have periſhed of malignant fevers. Theſe appearances, according to Morgagni and Tauvry,* are marks of inflammation in the throat, œſophagus, brain, ſtomach, liver, and bowels. Effuſions of water, and congeſtions of blood in the brain, large quantities of dark coloured or black bile in the gall-bladder and ſtomach—mortifications in the bowels and bladder—livid ſpots on the ſurface of the body—and above all, the arteries filled with fluid blood, and the veins nearly empty. I am aware that two caſes of death from hydrophobia, are related by Dr. Vaughan, in which no appearance of diſeaſe was diſcovered by diſſection in any part of the body. Similar appearances have occaſionally been met with in

* Bibliotheque Choiſie de Medecine, tome xv. p. 210.

in perſons who have died of malignant fevers. I have explained them in my lectures by calling the attention of my pupils to what conſtituted a diſeaſe. It is morbid action. Now this action is often ſo violent as to prevent inflammation.* We err therefore when we place diſeaſe in inflammation, for it is one of its primary effects only, and hence we obſerve it does not take place in many inſtances in malignant fevers until the arteries are ſo far relaxed by two or three bleedings as to be able to relieve themſelves by effuſing red blood into ſerous veſſels, and thus to produce that error loci which I have elſewhere† ſuppoſed to be eſſential to inflammation. The exiſtence of this grade of action in the arteries may always be known by the preſence of fizy blood, and by the more obvious and common ſymptoms of fever.

In

* In the 6th volume of the Medical Obſervations and Inquiries, there is an account of a diſſection of a perſon who had been deſtroyed by taking opium. "No morbid appearance (ſays Mr. Whateley, the ſurgeon who opened the body) was found in any part of the body, except that the villous coat of the ſtomach was very ſlightly inflamed." The ſtimulus of the opium in this caſe either produced an action which tranſcended inflammation, or deſtroyed action altogether by its immenſe force, by which means the more common morbid appearances which follow diſeaſe in a dead body could not take place.

† Medical Inquiries and Obſervations, vol. iv.

In addition to the explanation which has been given of the term diſeaſe, and of the difference between it and inflammation, I have deſignated that deranged ſtate of any part of the body which ſucceeds diſeaſe, whether it be inflammation, obſtruction, effuſion, or gangrene, by the name of *diſorder*. To render this diviſion of cauſes and effects in pathology, more ſimple and intelligible, it is neceſſary to remark further, that they do not always exiſt alone and unconnected with each other. Some remains of prediſpoſing debility occaſionally cleave to diſeaſe, and diſorders are ſometimes formed before the morbid actions of diſeaſe have completely ſpent themſelves. Thus we ſee cold feet from debility, with the ſigns of violent diſeaſe in the pulſe in the yellow fever, and univerſal diſeaſe in the blood-veſſels, with a fixed diſorder from tubercles in the pulmonary conſumption.

The remedies for hydrophobia, according to the principles I have endeavoured to eſtabliſh, divide themſelves naturally into two kinds.

I. Such as are proper to prevent the diſeaſe, after the infection of the rabid animal is received into the body.

II. Such as are proper to cure it when formed.

The

The firſt remedy under the firſt general head is, abſtracting or deſtroying the virus, by cutting or burning out the wounded part, or by long and frequent effuſions of water upon it agreeably to the advice of Dr. Haygarth, in order to waſh the ſaliva from it. The ſmall pox has been prevented, by cutting out the part in which the puncture was made in the arm with variolous matter. There is no reaſon why the ſame practice ſhould not ſucceed, if uſed in time in the hydrophobia. Where it has failed of ſucceſs, it has probably been uſed after the poiſon has contaminated the blood. The wound ſhould be kept open and running for ſeveral months. In this way a ſervant girl who was bitten by the ſame cat that bit Mr. Bellamy, is ſuppoſed by Dr. Fothergill to have eſcaped the diſeaſe. Dr. Weſton of Jamaica believes that he prevented the diſeaſe by the ſame means in two inſtances. Perhaps an advantage would ariſe from exciting a good deal of inflammation in the wound. We obſerve after inoculation, that the more inflamed the puncture becomes, and the greater the diſcharge from it, the leſs fever and eruption follow in the ſmall pox.

A ſecond preventive is a low diet, ſuch as has been often uſed with ſucceſs to mitigate the plague and yellow fever. The ſyſtem in this caſe, bends beneath

neath the ſtimulus of the morbid ſaliva, and thus obviates or leſſens its effects at a future day.

During the uſe of theſe means to prevent the diſeaſe, the utmoſt care ſhould be taken to keep up our patient's ſpirits, by inſpiring confidence in the remedies preſcribed for him.

Mercury has been uſed in order to prevent the diſeaſe. There are many well atteſted caſes upon record of perſons who have been ſalivated after being bitten by mad animals in whom the diſeaſe did not ſhew itſelf, but there are an equal number of caſes to be met with, in which even a ſalivation did not prevent it. From this it would ſeem probable, that the ſaliva did not infect in the caſes in which the diſeaſe was ſuppoſed to have been prevented by the mercury. At the time calomel was uſed to prepare the body for the ſmall pox, a ſalivation was often induced by it. The affection of the ſalivary glands in many inſtances leſſened the number of pock, but I believe in no inſtance prevented the eruptive fever.

I ſhall ſay nothing here of the many other medicines which have been uſed to prevent the diſeaſe. No one of them has I believe done any more good, than

than the boaſted ſpecifics which have been uſed to eradicate the gout, or to procure old age. They appear to have derived their credit from ſome of the following circumſtances accompanying the bite of the animal.

1. The animal may have been angry, but not diſeaſed with a malignant fever ſuch as I have deſcribed.

2. He may have been diſeaſed, but not to ſuch a degree as to have rendered his ſaliva infectious.

3. The ſaliva when infectious, may have been ſo waſhed off in paſſing through the patient's clothes, as not to have entered the wound made in the fleſh. And

4. There may have been no prediſpoſition in the patient to receive the fever. This is often obſerved in perſons expoſed to the contagion of the plague, yellow fever, ſmall pox, and to the infection of the itch, and the venereal diſeaſe.

The hydrophobia like the ſmall pox generally comes on with ſome pain, and inflammation in the part

part in which the infection was infuſed into the body, but to this remark, as in the ſmall pox there are ſome exceptions. As ſoon as the diſeaſe diſcovers itſelf, whether by pain or inflammation in the wounded part, or by any of the ſymptoms formerly, the firſt remedy indicated is BLOOD-LETTING. All the facts which have been mentioned, relative to its cauſe, ſymptoms, and the appearances of the body after death, concur to enforce the uſe of the lancet in this diſeaſe. Its affinity to the plague and yellow fever in its force, is an additional argument in favor of that remedy. To be effectual, it ſhould be uſed in the moſt liberal manner. The loſs of 100 to 200 ounces of blood will probably be neceſſary in moſt caſes to effect a cure. The pulſe ſhould govern the uſe of the lancet as in other ſtates of fever, taking care not to be impoſed upon by the abſence of *frequency* in it, in the ſuppoſed abſence of fever, and of *tenſion* in affections of the ſtomach, bowels and brain. This practice in the extent I have recommended it, is juſtified not only by the theory of the diſeaſe, but by its having been uſed with ſucceſs in the following caſes.

Dr. Nugent cured a woman by two copious bleedings, and afterwards by the uſe of ſweating and cordial medicines.

Mr.

Mr. Wrightſon was encouraged by Dr. Nugent's ſucceſs to uſe the ſame remedies with the ſame happy iſſue in a boy of 15 years of age.*

Mr. Falconer, cured a young woman of the name of Hannah Moore by "a copious bleeding," and another depleting remedy to be mentioned hereafter.†

Mr. Poupart cured a woman by bleeding until ſhe fainted, and Mr. Berger gives an account of a number of perſons being bitten by a rabid animal all of whom died, except two who were ſaved by bleeding.‡

Dr. Marſillac has favoured me with the hiſtory of a caſe of hydrophobia from the bite of a mad dog, in which copious, and repeated bleedings directed by Dr. Le Compt in France in the year 1786, performed a perfect cure in five weeks.—The bleedings were aided by another medicine to be mentioned in its proper place.

In the 40th volume of the Tranſactions of the Royal Society of London, there is an account of a man

* Medical Tranſactions, vol. ii. p. 192.

† Ditto, p. 222.

‡ Bibliotheque Choiſie de Medecine. Tome xv. p. 212.

a man being cured of hydrophobia by Dr. Hartley by the loſs of 120 ounces of blood.

Dr. Tilton cured this diſeaſe in a woman in the Delaware ſtate by very copious bleeding. The remedy was ſuggeſted to the Doctor by an account taken from a London Magazine of a dreadful hydrophobia being cured by an accidental and profuſe hæmorrhage from the temporal artery.*

A caſe is related by Dr. Innes,† of the loſs of 116 ounces of blood in ſeven days having cured this diſeaſe. In the patient who was the ſubject of this cure, the bleeding was uſed in the moſt depreſſed, and apparently weak ſtate of the pulſe. It roſe conſtantly with the loſs of blood.

The two laſt of the above caſes were ſaid to be of a ſpontaneous nature, but the morbid actions were exactly the ſame in both patients with thoſe which are derived from the bite of a rabid animal. There is but one remote cauſe of diſeaſe, and that is ſtimulus, and it is of no conſequence in the diſeaſe now under conſideration, whether the dread of water be the effect of the ſaliva of a rabid animal

* Medical Eſſays of Edinburgh, vol. i. p. 226.

† Medical Commentaries, vol. iii. p. 496.

mal acting upon the fauces, or of a morbid excitement determined to thoſe parts by any other ſtimulus. The inflammation of the ſtomach, depends upon the ſame kind of morbid action, whether it be produced by the contagion of the yellow fever, or the uſual remote and exciting cauſes of the gout. An apoplexy is the ſame diſeaſe when it ariſes from a contuſion by external violence, that it is when it ariſes ſpontaneouſly from the congeſtion of blood, or water in the brain. A dropſy from obſtructions in the liver induced by ſtrong drink, does not differ in its proximate cauſe from the dropſy brought on by the obſtructions in the ſame viſcus which are left by a neglected, or half cured bilious fever. Theſe remarks are of extenſive application, and if duly attended to, would deliver us from a maſs of error which has been accumulating for ages in medicine; I mean the nomenclature of diſeaſes from their remote cauſes. It is the moſt offenſive and injurious part of the rubbiſh of our Science.

I grant that bleeding has been uſed in ſome inſtances in hydrophobia without effect, but in all ſuch caſes, it was probably uſed out of time, or in too ſparing a manner. The credit of this remedy has ſuffered in many other diſeaſes from the ſame cauſes. I beg it may not be tried in this diſeaſe, by

by any phyſician who has not renounced our modern ſyſtems of noſology, and adopted in their utmoſt extent the principles, and practice of Botallus and Sydenham in the treatment of malignant fevers.

Before I quit the ſubject of blood-letting in hydrophobia, I have to add, that it has been uſed with ſucceſs in two inſtances in dogs that had exhibited all the uſual ſymptoms of what has been called madneſs. In one caſe, blood was drawn by cutting off the tail, in the other, by cutting off the ears of the diſeaſed animal. I mention theſe facts with pleaſure, not only becauſe they ſerve to ſupport the theory and practice which I have endeavoured to eſtabliſh in this diſeaſe, but becauſe they will render it unneceſſary to deſtroy the life of a uſeful and affectionate animal in order to prevent his ſpreading it. By curing it in a dog by means of bleeding, we moreover beget confidence in the ſame remedy in perſons who have been bitten by him, and thus leſſen the force of the diſeaſe, by preventing the operation of fear upon the ſyſtem.

2. Purges, and glyſters have been found uſeful in the hydrophobia. They diſcharge bile which is frequently vitiated, and reduce morbid action in the ſtomach

ſtomach and blood-veſſels. Dr. Coſte aſcribes the cure of a young woman in a convent wholly to glyſters given five or ſix times every day.

3. Sweating after bleeding completed the cure of the boy whoſe caſe is mentioned by Mr. Wrightſon. Dr. Baumgarten ſpeaks highly of this mode of depleting, and ſays further, that it has never been cured "but by evacuations of ſome kind."

4. All the advantages which attend a ſalivation in common malignant fevers, are to be expected from it in the hydrophobia. It aided blood-letting in two perſons who where cured by Mr. Falconer and Dr. Le Compt.

There are ſeveral caſes upon record in which muſk and opium have afforded evident relief in this diſeaſe.

A phyſician in Virginia cured it by large doſes of bark and wine. I have no doubt of the efficacy of theſe remedies when the diſeaſe is attended with a moderate or feeble morbid action in the ſyſtem, for I take it for granted, it reſembles malignant fevers from other cauſes in appearing in different grades of force. In its more violent and common form, ſtimulants of all kinds muſt do harm, unleſs they are

of

of ſuch a nature, and exhibited in ſuch quantities, as to exceed in their force the ſtimulus of the diſeaſe, but this is not be expected, more eſpecially as the ſtomach is for the moſt part ſo irritable as ſometimes to reject the mildeſt aliments as well as the moſt gentle medicines.

After the morbid actions in the ſyſtem have been weakened, tonic remedies would probably be uſeful in accelerating the cure.

Bliſters, and ſtimulating cataplaſms applied to the feet might probably be uſed with the ſame advantage in the declining ſtate of the diſeaſe, that they have been uſed in the ſame ſtage of other malignant fevers.

The cold bath, alſo long immerſion in cold water, have been frequently uſed in this diſeaſe. The former aided the lancet in the cure of the man whoſe caſe is related by Dr. Hartley. There can be no objection to the cold water in either of the above forms, provided no dread is excited by it in the mind of the patient.

The reader will perceive here that I have deſerted an opinion at which I hinted in my obſervations upon

on the cauſe and cure of the tetanus.* I there ſuppoſed the hydrophobia to depend upon debility. This debility I have ſince been led to conſider as partial, depending upon abſtraction of excitement from ſome, and a morbid accumulation of it in other parts of the body. In the former, it is of a direct, in the latter, it is of an indirect nature. The preternatural excitement predominates ſo far in moſt caſes of hydrophobia over direct weakneſs, that depleting remedies promiſe more ſpeedily and ſafely to equalize, and render it natural, than medicines of an oppoſite character.

In the treatment of thoſe caſes of hydrophobia which are not derived from the bite of a rabid animal, regard ſhould always be had to its remote and exciting cauſes, ſo as to accommodate the remedies to them. I ſhall only mention in the hiſtory of a caſe, the remedy for that ſtate of hydrophobia which ariſes from fear.

A clergyman in a neighbouring ſtate lately viſited one of his pariſhioners who was haſtening to the grave with the hydrophobia from the bite of a mad dog. In converſing with him, he inadvertently took up a pipe of tobacco which the diſtracted and dying man had juſt laid down, and put it into his

* Medical Inquiries and Obſervations vol. i.

his mouth. When he came home, he recollected this incident. The thoughts of it filled him with terror, and he was ſoon afterwards affected with a difficulty of ſwallowing and dread of water. The elders of his church were ſent for to conſole him. A phyſician was likewiſe ſent for, who took a part in the converſation of his patient with his friends. His opinions however upon the ſubjects on which they converſed, which were of a religious nature, were ſo offenſive to the clergyman, that he was thrown into a paſſion in hearing and refuting them, by which means his hydrophobia was inſtantly cured. In this way the impulſe of powerful emotions and paſſions often cure diſeaſes of leſs force, both in the body and mind.

The imperfection of the preſent nomenclature of medicine has become the ſubject of general complaint. The mortality of the diſeaſe from the bite of a rabid animal, has been increaſed by its name. The terms hydrophobia and canine madneſs, convey ideas of the ſymptoms of the diſeaſe only, and of ſuch of them too, as are by no means univerſal. If the theory I have delivered, and the practice I have recommended be juſt, it ought to be called the hydrophobic ſtate of fever. This name aſſociates it at once with all the other ſtates of fever, and leads us to treat it with the remedies which

which are proper in its kindred diſeaſes, and to vary them conſtantly with the varying ſtate of the ſyſtem.

In reviewing what has been ſaid of this diſeaſe, I dare not ſay that I have not been miſled by the principles of fever which I have adopted; but if I have, I hope the reader will not be diſcouraged by my errors from uſing his reaſon in medicine. By contemplating thoſe errors, he may perhaps avoid the ſhoals upon which I have been wrecked. In all his reſearches, let him ever remember that there is the ſame difference between the knowledge of a phyſician who preſcribes for diſeaſes as limited by genera and ſpecies, and of one who preſcribes under the direction of juſt principles, that there is between the knowledge we obtain of the nature and extent of the ſky, by viewing a few feet of it from the bottom of a well, and viewing from the top of a mountain, the whole canopy of heaven.

FINIS.

5/2/16